H. Schmid

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FIELD MAINTENANCE PRINT SET

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MP00189	PRINT SET FP11-A (COMPLETE SET)
MP00271	PRINT SET H7441 (COMPLETE SET)
D-CS-5410864-0-1	POWER DISTRIBUTION BOARD
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A-PL-FP11-AU-3	SHIPPING LIST (FP11-AU)

UNIT VARIATIONS COVERED BY THIS PRINT SET
FP11-AU

FP11-AU
Field Maintenance
Print Set

Digital Equipment
Corporation

PRINT SET ORDER NO.
MP00188

REVISIONS
REV.
CHG. NO.
DATE

USED ON OPTION/MODEL
1134A

SHEET 1 OF 1

DRN. D. HEALY
DATE OCT 76
CHK'D D. HEALY
DATE OCT 76
PROJ. ENG.
DATE 20 DEC 76
FIELD SERV
DATE 12-22-76

digital

TITLE: FLOATING POINT OPTION UPGRADE KIT

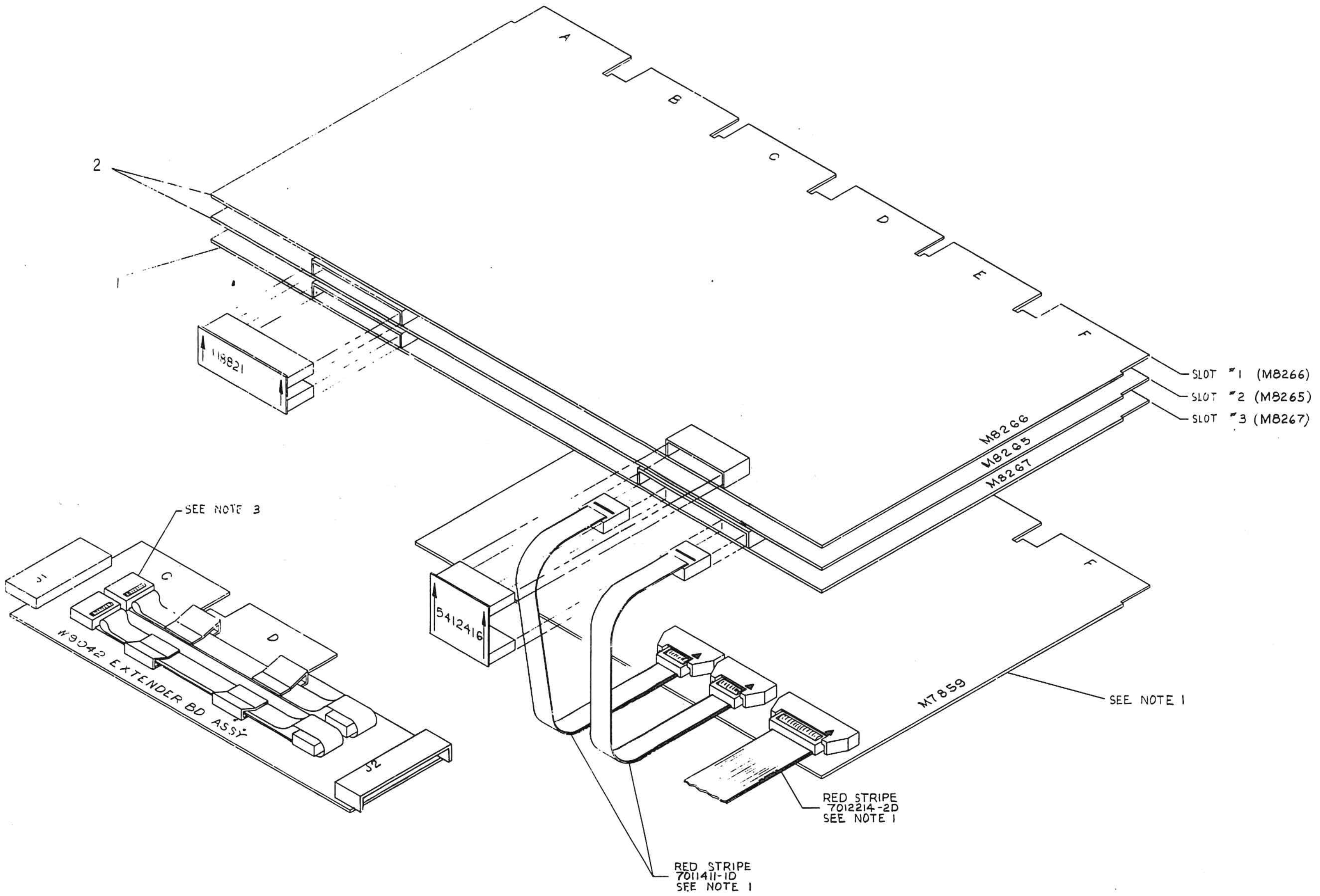
SIZE B
CODE TC
NUMBER FP11-AU-2
REV.
DIST.

EN-01124-16-N675-(327)

DRB 124

NOTES:

1. THE CABLES AND M7859 CONTROL BD. ARE PART OF THE KY11-LB OPTION AND MAY NOT BE PRESENT IN SOME 11/34 CONFIGURATIONS.
2. THE W9042 EXTENDER BD. ASSEMBLY IS STORED IN THE BACKPLANE AND IS USED FOR SOME MAINTENANCE OPERATIONS: SEE D-UA-FP11-A-0.
3. THE CABLES ARE INSTALLED DURING MAINTENANCE ONLY AND ARE CLIPPED TO THE W9042 FOR STORAGE.
4. ITEMS #3 & 4 NOT SHOWN ON THIS ASSY.



REF	DESCRIPTION	DWG./PART NO.	ITEM NO.
	MODULE UTILIZATION	D-MU-FP11-AU-1	5
1	POWER DISTRIBUTION BOARD	D-CS-5410864-YA-1	4
1	+5V REGULATOR	D-UA-H7441-0-0	3
1	1134A PROCESSOR	A-PL-KD11-EA-0	2
1	FLOATING POINT OPTION	D-UA-FP11-A-0	1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
ANGLES ±0° 30'
SURFACE QUALITY IN MICROINCHES
QUANTITY & VARIATION
THIRD ANGLE PROJECTION
REMOVE BURRS AND BREAK SHARP CORNERS
DO NOT SCALE DWG
MATERIAL SEE PARTS LIST
FINISH

DRN.	B. Blodgett	9 OCT 76
CHK'D	D. King	29 OCT 76
ENG.		16 DEC 76
PROJ. ENG.		
PROD.		

NEXT HIGHER ASSY.
E-UA-1134A-0-0
SCALE 1/1
SHEET 1 OF 1

FIRST USED ON
1134A

digital

TITLE
FLOATING POINT
OPTION UPGRADE KIT

SIZE	CODE	NUMBER	REV.
E	UA	FP11-AU-0	

DIST.

E UA FP11-AU-0

REVISIONS
CHANGE NO.
REV.
CHK

NOTE:

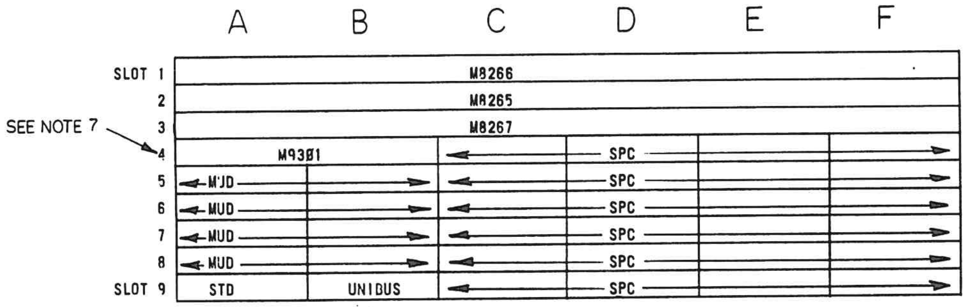
THIS MODULE UTILIZATION DRAWING SHOULD BE USED AS A CONFIGURATION GUIDE ONLY FOR 11/34 SYSTEMS THAT REQUIRE THE FP11-AU (eg. 10.50 BOX 11/34 SYSTEMS' WITH A KD11-E PROCESSOR (M7265 AND M7266) THAT CAN SUPPLY ONLY 25A @+5VDC TO THE DD11-P BACKPLANE). THE M8266 (WHICH REPLACES THE M7266 , M8265 (WHICH REPLACES THE M7265), AND THE M8267 (FP11-A) , MUST OCCUPY THE FIRST THREE HEX SLOTS, WHILE THE M9301 MUST OCCUPY AN ADJACENT MODIFIED UNIBUS SLOT. THESE MODULES CONSUME 20.5 @+5VDC LEAVING ONLY 4.5A @+5VDC FOR OTHER SYSTEM AND USER OPTIONS. IT IS FOR THIS REASON THAN AN H7441 PEGULATOR 32A @+5VDC AND 5410864-YA POWER DISTRIBUTION BOARD ARE INCLUDED IN THE FP11-AU. THE INCREASED AVAILABILITY OF CURRENT DUE TO THE H7441 REGULATOR ONLY PARTIALLY MITIGATES THE INCREASED CONSUMPTION OF CURRENT BY M8265, M9266, AND M8267 MODULES.

THE EXISTANCE OF ADDITIONAL MODULES MAY REQUIRE THAT THE MEMORIES, M9302, AND M7850 MODULES BE MOVED TO AN ADDITIONAL BACKPLANE.

NOTES:

1. NO VARIATION OF THE FP11-AU IS AVAILABLE FOR USE WITH 5.25" BOX 11/34 SYSTEMS.
2. CONSULT D-MU-DD11-P-2 TO DETERMINE HOW THE DD11-P SLOTS ARE WIRED.
3. THE CURRENTS LISTED ARE FOR REFERENCE ONLY, ACTUAL CURRENT CONSUMPTION MAY VARY.
4. NO MAJOR CONFIGURATION CHANGES ARE NECESSARY. ADDITIONAL MODULES MAY REQUIRE ANOTHER BACKPLANE.
5. THE W9042 EXTENDER BOARD SHOULD BE STORED IN THE BACKPLANE IN PLACE OF ONE OF THE G727 GRANT CONTINUITY CARDS.
6. BA11-K'S THAT USE THE 5410864-YA-1 POWER DISTRIBUTION (I.E. 1134A, 11/34 WITH FP11-AU, AND SOME 11/04'S) AND HAVE ONE DD11-DK(OR AN ADDITIONAL DD11-CK) CAN ONLY HAVE THE +5 TO+5B JUMPER IN ONE OF THE BACK PANELS. IF TWO OF THE BACK PANELS HAVE THE JUMPER IN, THE +5V REGULATORS MAY BE CONNECTED TOGETHER. TYPICALLY THIS JUMPER IS IN THE FIRST BACK PANEL, BUT IT MAY BE PLACED IN ONE OF THE OTHER BACK PANELS IF DEEMED NECESSARY FOR POWER REQUIREMENTS.
7. EITHER M9301 OR M9312 MAY BE USED BUT NOT BOTH.

		M7265/M7266 (10.5 A)	M8265/M8266 (11.5 A)	M8267 (7.0 A)	M9301 (2.0 A) SEE NOTE 7	M9302 (1.2 A)	M7850 (1.0 A)	DL11-W (2.0 A)	KY11-LB (3.0 A)	MS11-E (2.0 A)	MM11-D (3.0 A)	G727 (0.0 A)	TOTAL +5VDC CURRENT WITH M7265, M7266	TOTAL +5VDC CURRENT WITH M8265, M8266, M8267	NOTE:	TOTAL +5VDC CURRENT WITH M9302, M7850, AND MEMORIES MOVED TO ANOTHER BACKPLANE.
5.25" BOX	11/34-DC(D)	1	-	-	1	1	1	-	-	1	-	6	16.7	-	1	-
	11/34-HC(D)	1	-	-	1	1	1	-	-	-	1	6	17.7	-	1	-
	11/34-LC(D)	1	-	-	1	1	1	-	-	2	-	5	18.7	-	1	-
	11/34-MC(D)	1	-	-	1	1	1	-	-	-	2	5	20.7	-	1	-
10.5" BOX	11/34-LH(J)	1	-	-	1	1	1	-	-	2	-	5	18.7	26.7	4	20.5
	11/34-DH(J)	1	-	-	1	1	1	-	-	1	-	6	16.7	24.7	4	20.5
	11/34-MH(J)	1	-	-	1	1	1	-	-	-	2	5	20.7	28,7	4	20.5
	11/34-HH(J)	1	-	-	1	1	1	-	-	-	1	6	17.7	25.7	4	20.5
	11/34-LM(N)	1	-	-	1	1	1	1	-	2	-	4	20.7	28.7	4	22.5
	11/34-DM(N)	1	-	-	1	1	1	1	-	1	-	5	18.7	26.7	4	22.5
	11/34-MM(N)	1	-	-	1	1	1	1	-	-	2	4	22.7	30.7	4	22.5
	11/34-HM(N)	1	-	-	1	1	1	1	-	-	1	5	19.7	27.7	4	22.5



DD11-P BACKPLANE

DESCRIPTION | DWG./PART NO. | ITEM NO.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

ANGLES ±0° 30'

SURFACE QUALITY IN ✓ MICROINCHES

CLASS OF ACCURACY (CHECK ONE)	OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 80.0
MEDIUM ☐	±.004	±.008	±.012	±.016	±.024	±.04
PREFERRED ☐	±.012	±.016	±.025	±.04	±.063	±0.1

QUANTITY & VARIATION

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL —/—/—

FINISH —/—/—

DRN.	B. B Lodgett	14 DEC 76
CHK'D	S. Abady	16 DEC 76
ENG.	Dave [illegible]	16 DEC 76
PROJ. ENG.	Mitchell	[illegible]
PROD.	[illegible]	21 Dec 76

NEXT HIGHER ASSY.
B-DD-FP11-AU
SCALE NONE
SHEET 1 OF 2

FIRST USED ON
1134

digital

TITLE
MODULE
UTILIZATION
FP11-AU

SIZE	CODE	NUMBER	REV.
D	MU	FP11-AU-1	B

DIST.

REVISIONS

CHK	CHANGE NO.	REV.
	FP11-AU-00002	A
	D Chason 1 June 77	
	D. BARRY	
	Dick Barry 24 June 77	
	FP11AU-00003	B
	[illegible] 8 mar 78	
	B.BERNSTEIN	
	[illegible]	

MAKEPEACE P-1655

DEC FORM NO. DRD 100-C

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FLOATING POINT

FP11-AU FLOATING POINT OPTION UPGRADE KIT
POWER SUPPLY COMPONENTS INSTALLATION PROCEDURE

THE FP11-AU FLOATING POINT OPTION UPGRADE KIT PROVIDES AN H7441 REGULATOR AND 5410864-YA POWER DISTRIBUTION BOARD IN ORDER TO INCREASE THE AMOUNT OF CURRENT AT +5VDC AVAILABLE FROM THE 10.5" BOX. THE FOLLOWING IS AN INSTALLATION PROCEDURE FOR THESE COMPONENTS.

TOOLS REQUIRED
LARGE PHILLIPS SCREWDRIVER
LARGE STANDARD SCREWDRIVER
MEDIUM PHILLIPS SCREWDRIVER
90° OFFSET PHILLIPS SCREWDRIVER

DEFINITIONS

BOX	BA11-K BOX
CHASSIS	MODULE ENCLOSURE PORTION OF A BA11-K BOX
P/S	H765 POWER SUPPLY ASSEMBLY PORTION OF A BA11-K BOX
TOP OF BOX	MODULE HANDLES SIDE OF A BA11-K BOX
BOTTOM OF BOX	BACKPLANE PINS SIDE OF A BA11-K BOX
SIDE OF BOX	WHERE CHASSIS SLIDES MOUNT TO A BA11-K BOX
BACK OF P/S	SURFACE OF P/S WHERE THE LINE CORD ENTERS
FRONT OF P/S	SURFACE OF P/S WHERE THE OUTPUT MATE-N-LOKS ARE LOCATED

WARNING: TURN OFF COMPUTER SYSTEM AND DISCONNECT IT FROM POWER LINE BEFORE ATTEMPTING TO WORK ON THE SYSTEM.

1. EXTEND THE BOX OUT OF THE CABINET TO THE LIMITS OF THE CHASSIS SLIDES
2. REMOVE THE CHASSIS TOP COVER TO GAIN ACCESS TO THE P/S TOP COVER
3. LOOSEN THE CLAMP HOLDING THE CABLES THAT RUN ACROSS THE P/S AND THEN REMOVE THE P/S TOP COVER.
4. ROTATE THE BOX 90° SO THAT THE BOTTOM OF THE BOX NOW FACES AWAY FROM THE CABINET.
5. REMOVE THE CHASSIS BOTTOM COVER THIS WILL REVEAL THE POWER DISTRIBUTION BOARD LOCATED OVER THE FAN AND BETWEEN THE P/S AND BACKPLANES.

WARNING: DO NOT REMOVE THE TWO HINGE SCREWS (ONE ON EACH SIDE OF THE BOX LOCATED NEAR TOP OF THE BOX AT JUNCTION OF THE P/S AND CHASSIS).

6. REMOVE FOUR FLATHEAD SCREWS (NO WASHERS) LOCATED (TWO ON EACH SIDE OF THE BOX) APPROXIMATELY FOUR INCHES FROM THE BOTTOM EDGE OF THE BOX AT THE JUNCTION OF THE P/S AND CHASSIS. THIS WILL ALLOW THE P/S TO SWING AWAY FROM THE CHASSIS.
7. LOCATE THE H744 +5VDC REGULATOR THAT POWERS THE CPU BACKPLANE. THIS REGULATOR (SHOWN AS REGULATOR #2 ON THE E-UA-11/34-0-0 DRAWING) IS THE SECOND ONE FROM THE RIGHT WHEN FACING THE UPTURNED BOX FROM THW WIRE-WRAP SIDE OF THE BACKPLANE.
8. REMOVE THE TWO MOUNTING SCREWS (AND WASHERS) LOCATED JUST TO THE LEFT OF MATE-N-LOK CONNECTOR FOR THAT H744. THERE WILL BE A GREEN SAFETY GROUND WIRE UNDER ONE OF THEM. THE 90° OFFSET PHILLIPS SCREWDRIVER WILL BE NEEDED FOR THIS OPERATION.
9. REMOVE THE MATE-N-LOK FOR THE H744 AND THE ONE REMAINING HOLDING SCREW (AND WASHER) LOCATED ON THE BACK OF THE P/S TO THE LEFT OF THE H744 DECAL.
10. REMOVE THE H744 BY SLIDING IT OUT THROUGH THE TOP OF THE P/S (YOU MAY HAVE TO ROTATE THE BOX FOR THIS OPERATION).
11. REPLACE THE H744 WITH THE H7441 INCLUDED IN THE FP11-AU.
12. RETURN THE BOX TO THE POSITION OF STEP #3 IF NECESSARY.
13. REPLACE THE MOUNTING SCREWS, WASHERS, AND GREEN SAFETY GROUND WIRE THAT ARE COMMON TO THE H7441 REGULATOR, BUT DO NOT RECONNECT THE MATE-N-LOK.
14. REMOVE THE THREE REMAINING MATE-N-LOKS CONNECTING THE REGULATORS TO THE POWER DISTRIBUTION BOARD FLYING LEADS.
15. LOCATE THE BLACK GROUND WIRE SOLDERED TO THE POWER DISTRIBUTION BOARD NEAR J16. REMOVE THIS CONNECTION FROM THE P/S (NO WASHER) AND THE CHASSIS (WASHER).
16. REMOVE THE +5V AND GND FASTONS FROM THE POWER DISTRIBUTION BOARD THAT ARE LOCATED NEAR J14.
17. REMOVE THE SIX PIN MATE-N-LOK FROM THE POWER DISTRIBUTION BOARD AT J8.
18. LOCATE AND REMOVE THE FOUR FLATHEAD MOUNTING SCREWS (NO WASHERS) HOLDING THE POWER DISTRIBUTION BOARD TO THE CHASSIS. THEY ARE LOCATED (TWO ON EACH SIDE OF BOX) 2" UP FROM THE BOTTOM OF THE BOX NEAR THE JUNCTION OF THE P/S AND CHASSIS. THIS WILL ALLOW THE POWER DISTRIBUTION BOARD TO BE MOVED TO FACILITATE REMOVAL OF ALL BACKPLANE MATE-N-LOK CONNECTORS
19. REMOVE ALL BACKPLANE MATE-N-LOK CONNECTORS
20. REMOVE THE TWO REMAINING MATE-N-LOKS CONNECTING THE POWER DISTRIBUTION BOARD TO THE P/S.
21. REMOVE THE POWER DISTRIBUTION BOARD FROM THE CHASSIS.
22. REVERSE PROCEDURE (STEPS #21 TO #14, #6 TO #1) TO INSTALL THE NEW POWER DISTRIBUTION BOARD. CAUTION: SEE NOTE #1

REV.	CHANGE NO.	CHK

REVISIONS

DESCRIPTION	DWG./PART NO.	ITEM NO.

QUANTITY & VARIATION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

ANGLES ±0° 30'	CLASS OF ACCURACY (CHECK ONE)	OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 80.0
SURFACE QUALITY IN ✓ MICROINCHES	MEDIUM ☐	±.004	±.008	±.012	±.016	±.024	±.04
	PREFERRED ☐	±.012	±.016	±.025	±.04	±.063	±0.1

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL —/—/—
FINISH —/—/—

DRN. Bob Pellerin	16 DEC 76	
CHK'D J. Hovey	16 DEC 76	
ENG.	16 DEC 76	
PROJ. ENG. J MITCHELL	20 DEC 76	
PROD.	21 DEC 76	

FIRST USED ON

digital

TITLE
MODULE
UTILIZATION
FP11-AU

NEXT HIGHER ASSY.
B-DD-FP11-AU
SCALE NONE
SHEET 2 OF 2

SIZE	CODE	NUMBER	REV.
D	MU	FP11-AU-1	B

DIST.

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FIELD MAINTENANCE PRINT SET

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D-BD-KD11-EA-2 BLOCK DIAGRAM (KD11-EA)
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D-UA-M8266-0-0 CONTROL
B-PL-M8266-0-0 CONTROL (PL)
D-CS-M8266-0-1 CONTROL (CS)
D-UA-M8265-0-0 DATA PATH
B-PL-M8265-0-0 DATA PATH (PL)
D-CS-M8265-0-1 DATA PATH (CS)

UNIT VARIATIONS COVERED BY THIS PRINT SET
KD11-EA

KD11-EA
Field Maintenance
Print Set

Digital Equipment
Corporation

PRINT SET ORDER NO.
MP00192

REVISIONS		
REV.		
CHG. NO.		
DATE		

USED ON OPTION/MODEL	
1134A	
SHEET I OF I	

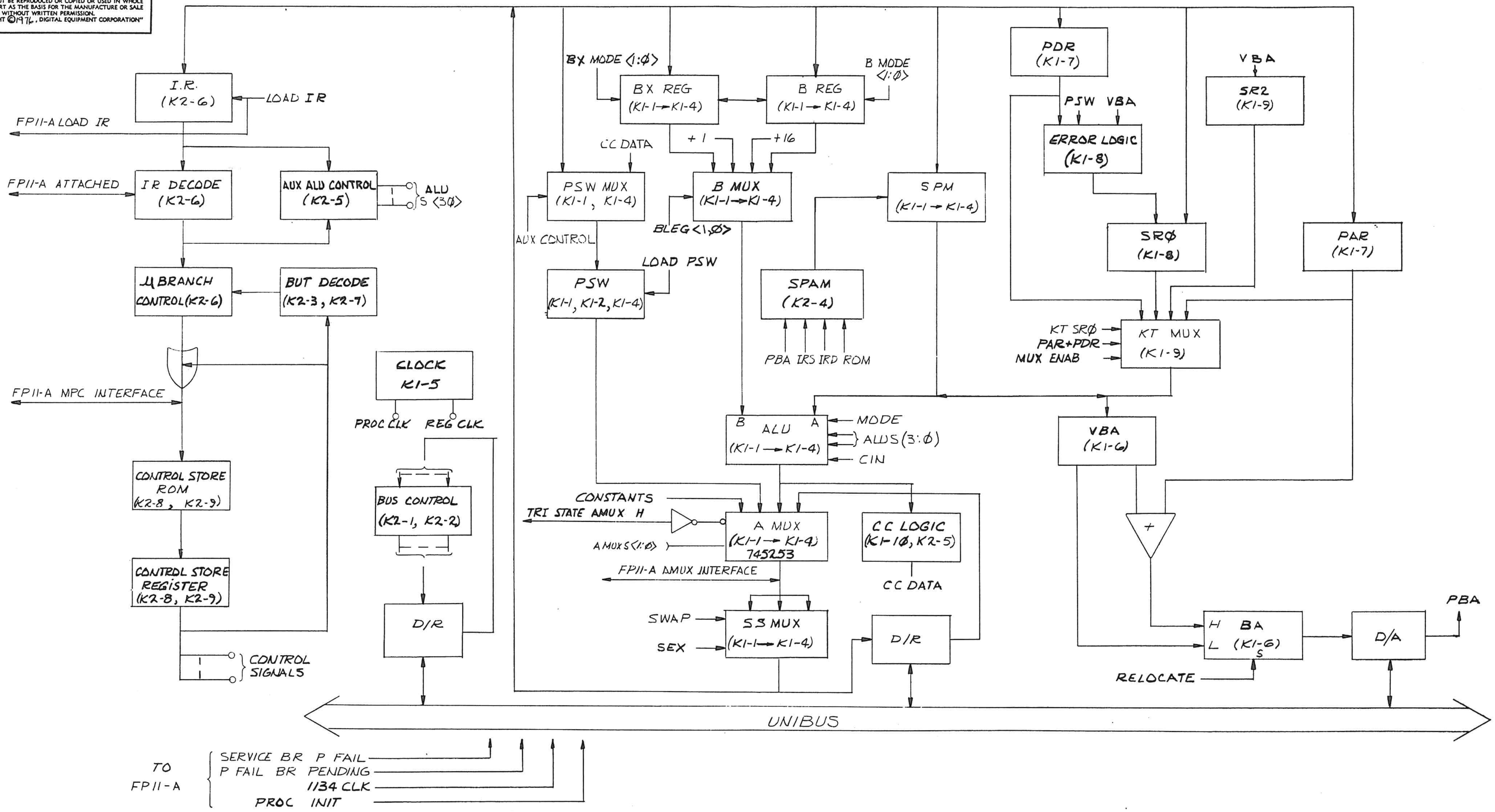
DRN.	D. HEALY	DATE	OCT 76
CHK'D	D. HEALY	DATE	OCT 76
PROJ. ENG.	J W Mitchell	DATE	12-20-76
FIELD SERV.	Roy Evan	DATE	12-20-76

digital

TITLE: 1134A PROCESSOR

SIZE	CODE	NUMBER	REV.
B	TC	KD11-EA-3	
DIST.			

DRB 124



DRN. B. Blodgett	14 DEC 76	FIRST USED ON	digital
CHK'D D. Keady	20 DEC 76	TITLE BLOCK DIAGRAM KD11-EA	
ENG.	20 DEC 76		
PROJ. ENG.	20 DEC 76		
PROD.			
NEXT HIGHER ASSY. B-DD-KD11-EA		SIZE D · CODE BD · NUMBER KD11-EA-2	REV.
SCALE			
SHEET 1 OF 1		DIST.	

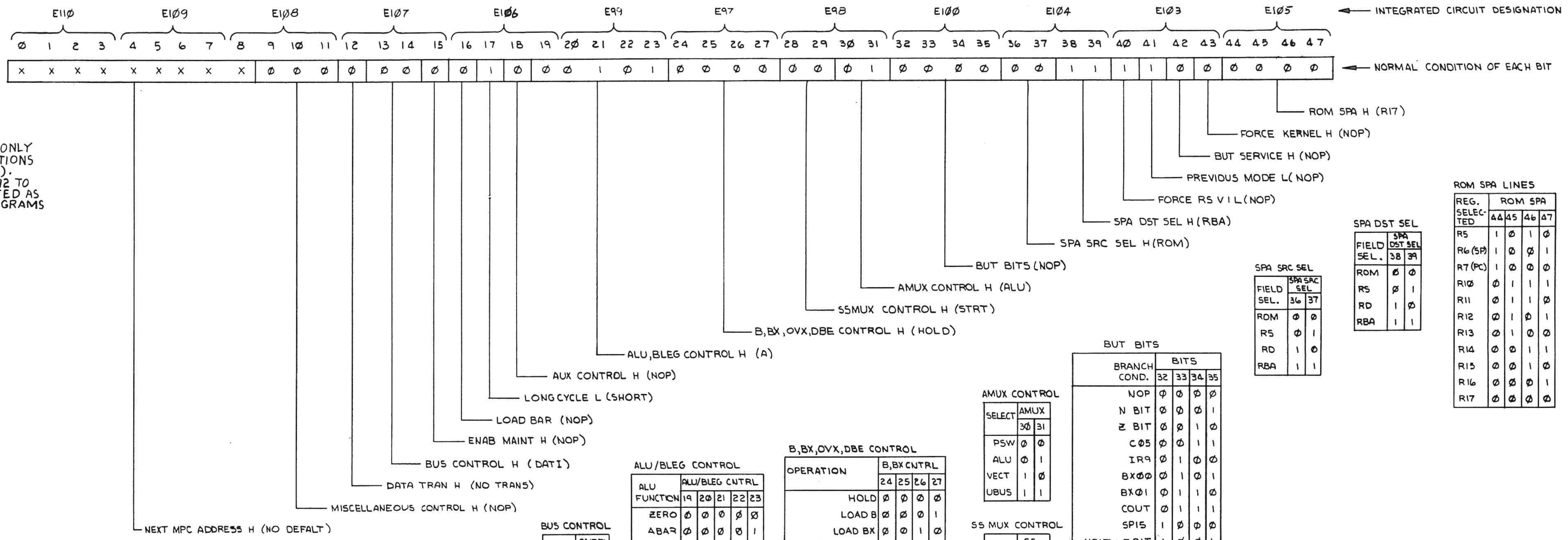
REVISIONS | REV. | CHANGE NO. | CHK

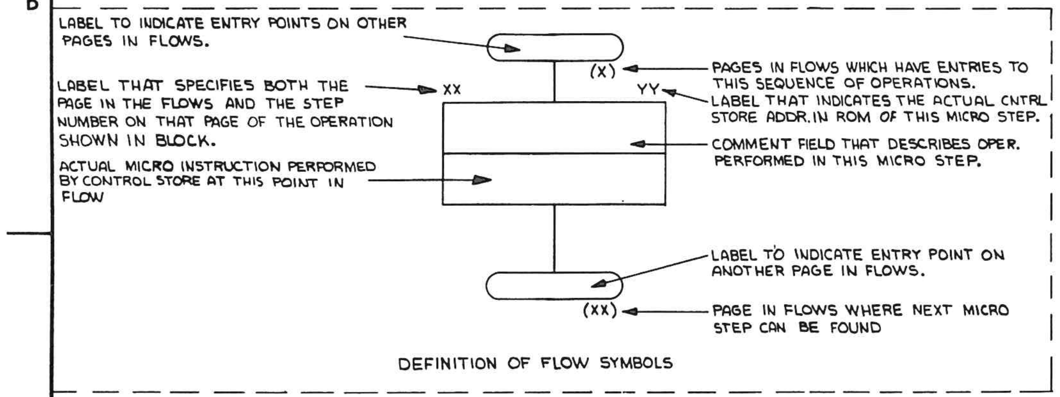
DEC FORM NO. DRD 102-D

NOTE:

THIS SET OF FLOW DIAGRAMS ONLY DOCUMENTS MICROWORD LOCATIONS FROM 0000 TO 051 (DECIMAL). MICROWORD LOCATIONS FROM 0512 TO 1023 (DECIMAL) ARE DOCUMENTED AS PART OF THE FP11-A FLOW DIAGRAMS (SEE D-FD-FP11-A-1)

KD11-E CONTROL WORD




LABEL TO INDICATE ENTRY POINTS ON OTHER PAGES IN FLOWS.
LABEL THAT SPECIFIES BOTH THE PAGE IN THE FLOWS AND THE STEP NUMBER ON THAT PAGE OF THE OPERATION SHOWN IN BLOCK.
ACTUAL MICRO INSTRUCTION PERFORMED BY CONTROL STORE AT THIS POINT IN FLOW
XX
(X)
YY
PAGES IN FLOWS WHICH HAVE ENTRIES TO THIS SEQUENCE OF OPERATIONS.
LABEL THAT INDICATES THE ACTUAL CNTRL STORE ADDR. IN ROM OF THIS MICRO STEP.
COMMENT FIELD THAT DESCRIBES OPER. PERFORMED IN THIS MICRO STEP.
LABEL TO INDICATE ENTRY POINT ON ANOTHER PAGE IN FLOWS.
(XX)
PAGE IN FLOWS WHERE NEXT MICRO STEP CAN BE FOUND

DEFINITION OF FLOW SYMBOLS

MISC. CONTROL

OPERATION	MISC		
	9	10	11
NOP	0	0	0
LOAD IR	0	0	1
LOAD PSW	0	1	0
LOAD CC	0	1	1
BUT DEST	1	0	0
ENAB STOV	1	0	1
LOAD CNT	1	1	0
COUNT	1	1	1

BUS CONTROL

OPERATION	CNTRL	
	13	14
DATI	0	0
DATIP	0	1
DATO	1	0
DATOB	1	1

ALU/BLEG CONTROL

ALU FUNCTION	ALU/BLEG CNTRL				
	19	20	21	22	23
ZERO	0	0	0	0	0
ABAR	0	0	0	0	1
A+1	0	0	0	1	0
A-1	0	0	0	1	1
A-B	0	0	1	0	0
A	0	0	1	0	1
B	0	0	1	1	0
ONE BAR	0	0	1	1	1
A+B	0	1	0	0	0
A·B	0	1	0	0	1
ABAR·B	0	1	0	1	0
AVB	0	1	0	1	1
A*B	0	1	1	0	0
A·BBAR	0	1	1	0	1
K16	0	1	1	1	0
A+B+1	1	0	0	0	0
A+BX	1	0	0	0	1
A-BX	1	0	0	1	0
A+BX+1	1	0	0	1	1
A+2	1	0	1	0	0
A-2	1	0	1	0	1
A+A	1	0	1	1	0
BX	1	0	1	1	1
BBAR	1	1	0	0	0
BX BAR	1	1	0	0	1
A+A+1	1	1	0	1	0

B,BX,OVX,DBE CONTROL

OPERATION	B,BX CNTRL			
	24	25	26	27
HOLD	0	0	0	0
LOAD B	0	0	0	1
LOAD BX	0	0	1	0
SL(BX-0),LDB	0	0	1	1
SL(BX-COUT),LDB	0	1	0	0
SL(BX-1),LDB	0	1	0	1
SL (B-0)	0	1	1	0
SL(B-0),LDBX	0	1	1	1
SL (B-BX15)	1	0	0	0
SL (BX-0)	1	0	0	1
SL (BX-1)	1	0	1	0
SL(BX-OVX)	1	0	1	1
SL (BX-COUT)	1	1	0	0
SL (B-BX-0)	1	1	0	1
SR (B15-B-BX)	1	1	1	0
ENAB DBE	1	1	1	1

AMUX CONTROL

SELECT	AMUX	
	30	31
PSW	0	0
ALU	0	1
VECT	1	0
UBUS	1	1

SS MUX CONTROL

SELECT	SS	
	28	29
STRT	0	0
SEX	0	1
SWAB	1	0
EXTRNL	1	1

BUT BITS

BRANCH COND.	BITS			
	32	33	34	35
NOP	0	0	0	0
N BIT	0	0	0	1
Z BIT	0	0	1	0
C05	0	0	1	1
IR9	0	1	0	0
BX00	0	1	0	1
BX01	0	1	1	0
COUT	0	1	1	1
SP15	1	0	0	0
NBIT + Z BIT	1	0	0	1
BX00 + SP15	1	0	1	0
BX01 + BX00	1	0	1	1
C05 + BX01 + BX00	1	1	0	0
NBIT + C05	1	1	0	1
BX00 + C05	1	1	1	0
ALL	1	1	1	1

SPA SRC SEL

FIELD SEL.	SPA SRC SEL	
	36	37
ROM	0	0
RS	0	1
RD	1	0
RBA	1	1

SPA DST SEL

FIELD SEL.	SPA DST SEL	
	38	39
ROM	0	0
RS	0	1
RD	1	0
RBA	1	1

ROM SPA LINES

REG. SELECTED	ROM SPA			
	44	45	46	47
R5	1	0	1	0
R6 (SP)	1	0	0	1
R7 (PC)	1	0	0	0
R10	0	1	1	1
R11	0	1	1	0
R12	0	1	0	1
R13	0	1	0	0
R14	0	0	1	1
R15	0	0	1	0
R16	0	0	0	1
R17	0	0	0	0

A "1" IN THE TABLES SHOWN INDICATES A LOGIC "1" ROM OUTPUT BETWEEN +2.4 VOLTS AND +5.0 VOLTS.

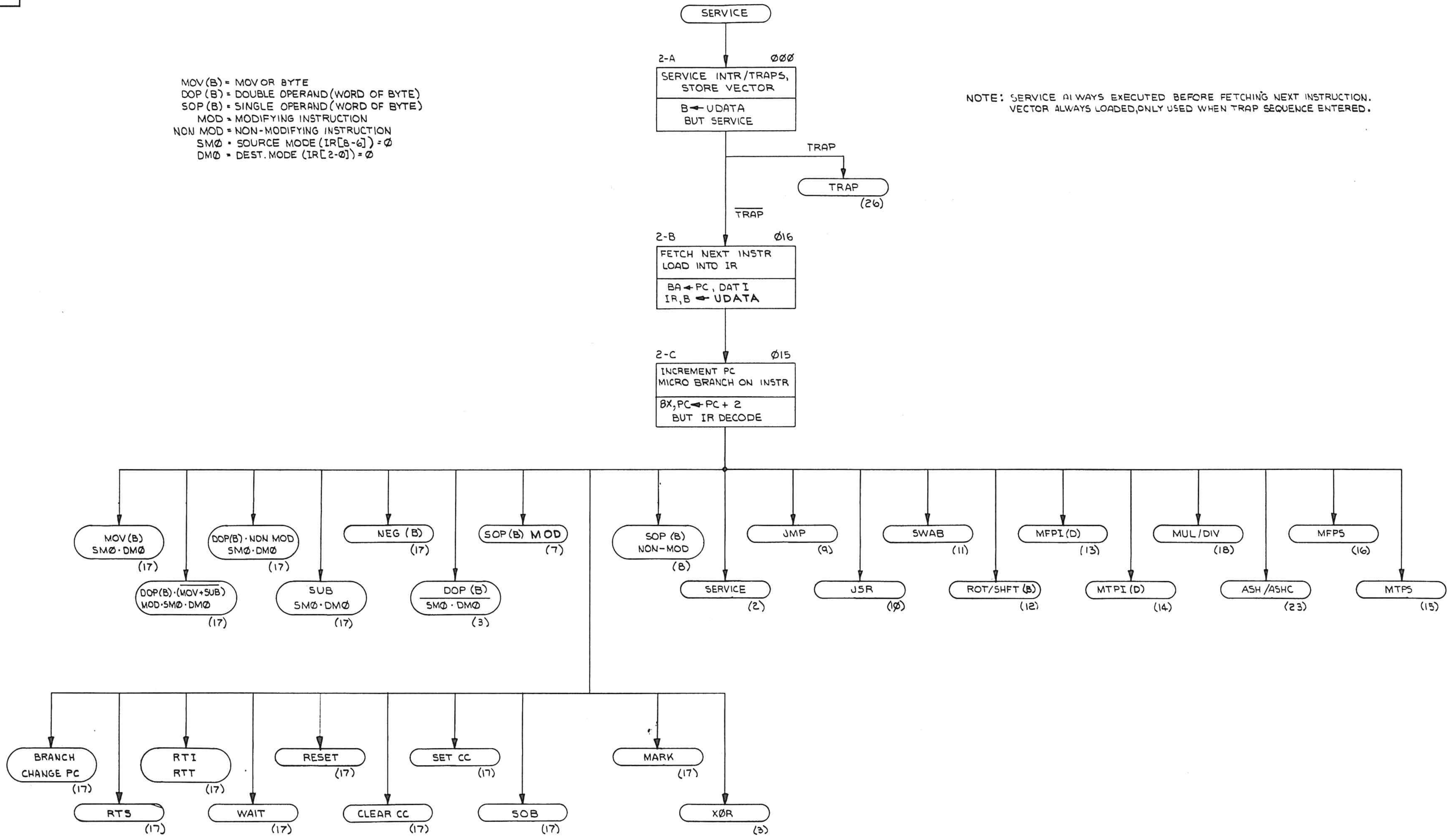
A "0" IN THE TABLES SHOWN INDICATES A LOGIC "0" ROM OUTPUT BETWEEN 0.0 VOLTS AND +0.4 VOLTS.

NOTE THAT ALL LEVELS SHOWN REPRESENT ACTUAL CONTROL STORE ROM OUTPUTS.

FIRST USED ON OPTION/MODEL 1134A	QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST			
DIMENSIONAL TOLERANCE DIMENSIONS ARE MILLIMETERS/INCHES UNLESS OTHERWISE SPECIFIED	DRN B Blodgett	DATE 18 OCT 76	digital	
	CHK'D. D Healy	DATE 2 NOV 76		
MILLIMETERS: X,XX = ±0,10 X,X = ±0,5 X = ±2, INCHES: .XXX = ±.005 .XX = ±.02 .X = ±.1 ANGLES: ±0° 30'	ENG.	DATE 3 DEC 76	TITLE KD11-EA FLOW DIAGRAMS	
	PROJ. ENG. J. W. MITCHELL	DATE 3 Dec 76		
THIRD ANGLE PROJECTION	PROD. R B King	DATE 6 Dec 76		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓	NEXT HIGHER ASSY.			
MATERIAL	B-DD-KD11-EA		SIZE D CODE FD NUMBER KD11-EA-1	REV.
FINISH	SCALE			
	SHEET 1 OF 26		DIST.	

MOV (B) = MOV OR BYTE
DOP (B) = DOUBLE OPERAND (WORD OF BYTE)
SOP (B) = SINGLE OPERAND (WORD OF BYTE)
MOD = MODIFYING INSTRUCTION
NON MOD = NON-MODIFYING INSTRUCTION
SM0 = SOURCE MODE (IR[8-6]) = 0
DM0 = DEST. MODE (IR[2-0]) = 0

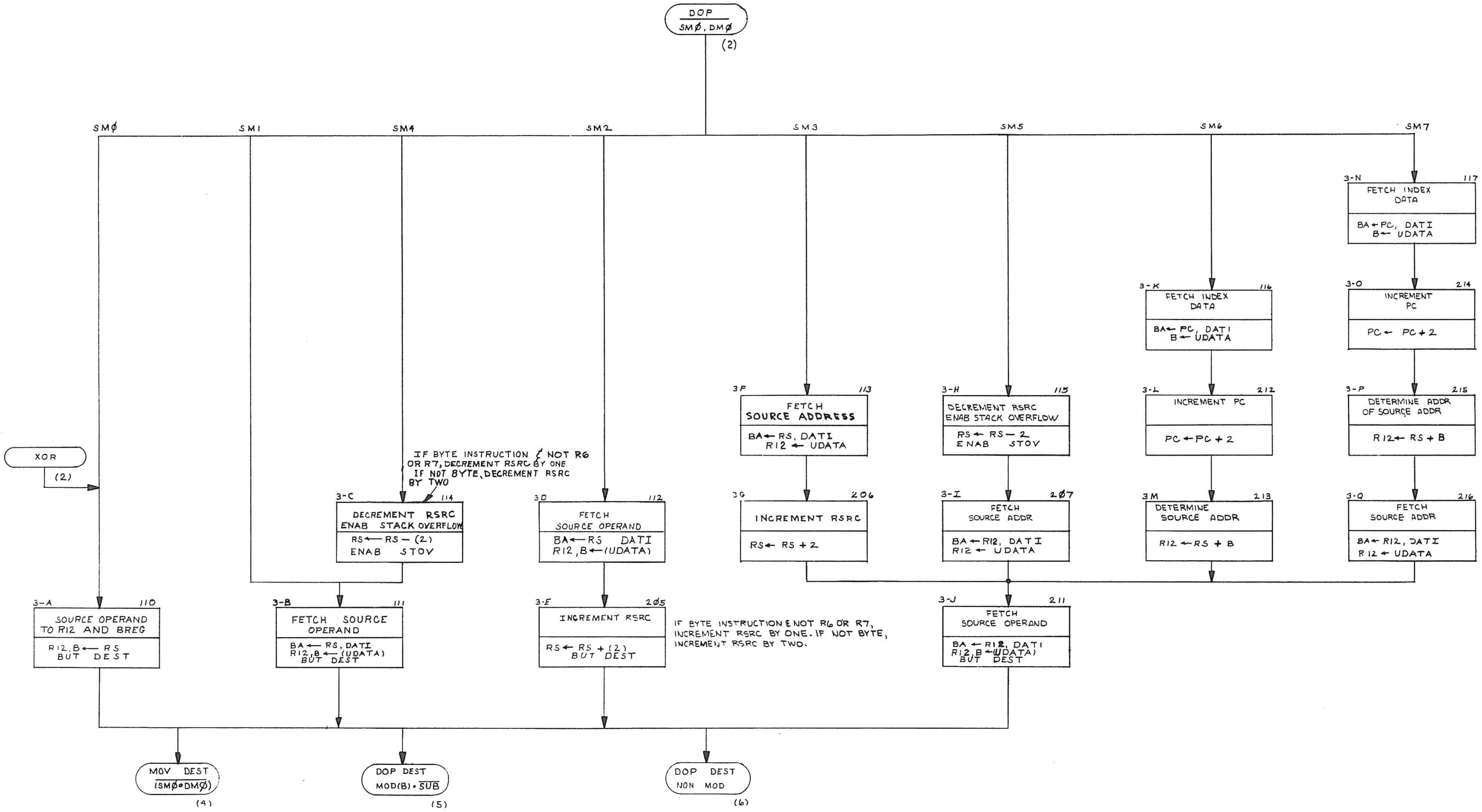
NOTE: SERVICE ALWAYS EXECUTED BEFORE FETCHING NEXT INSTRUCTION.
VECTOR ALWAYS LOADED, ONLY USED WHEN TRAP SEQUENCE ENTERED.



REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO.
DRD 138

TITLE
KD11-EA FLOW DIAGRAMS
SIZE D
CODE FD
NUMBER KD11-EA-1
REV.
SCALE —/—
SHEET 2 OF 26
DIST.



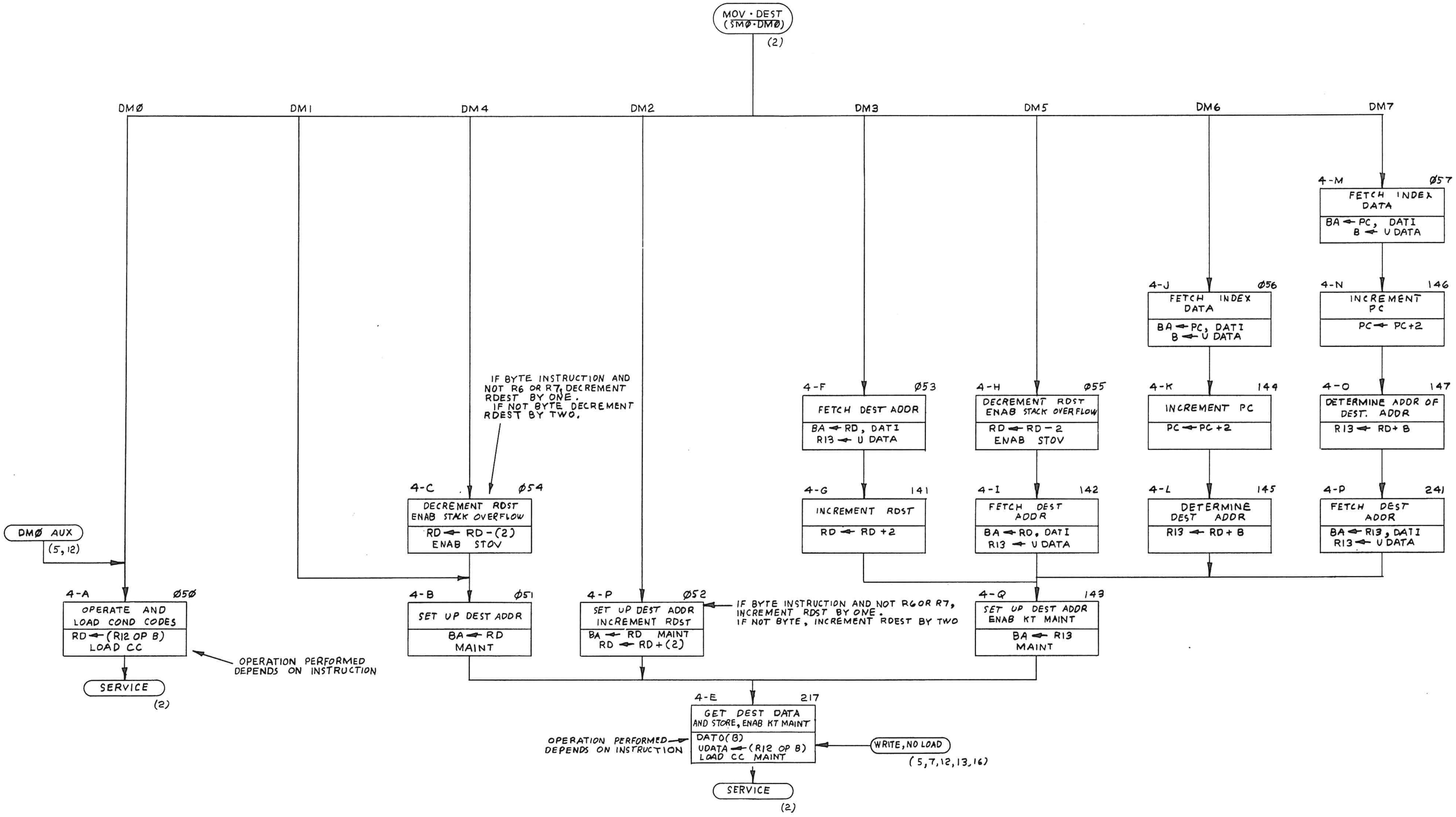
REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO.
DRD 138

TITLE
KD11-EA FLOW DIAGRAMS

SIZE	CODE	NUMBER	REV.
D	FD	KD11-EA-1	

SCALE —/—
SHEET 3 OF 26
DIST.



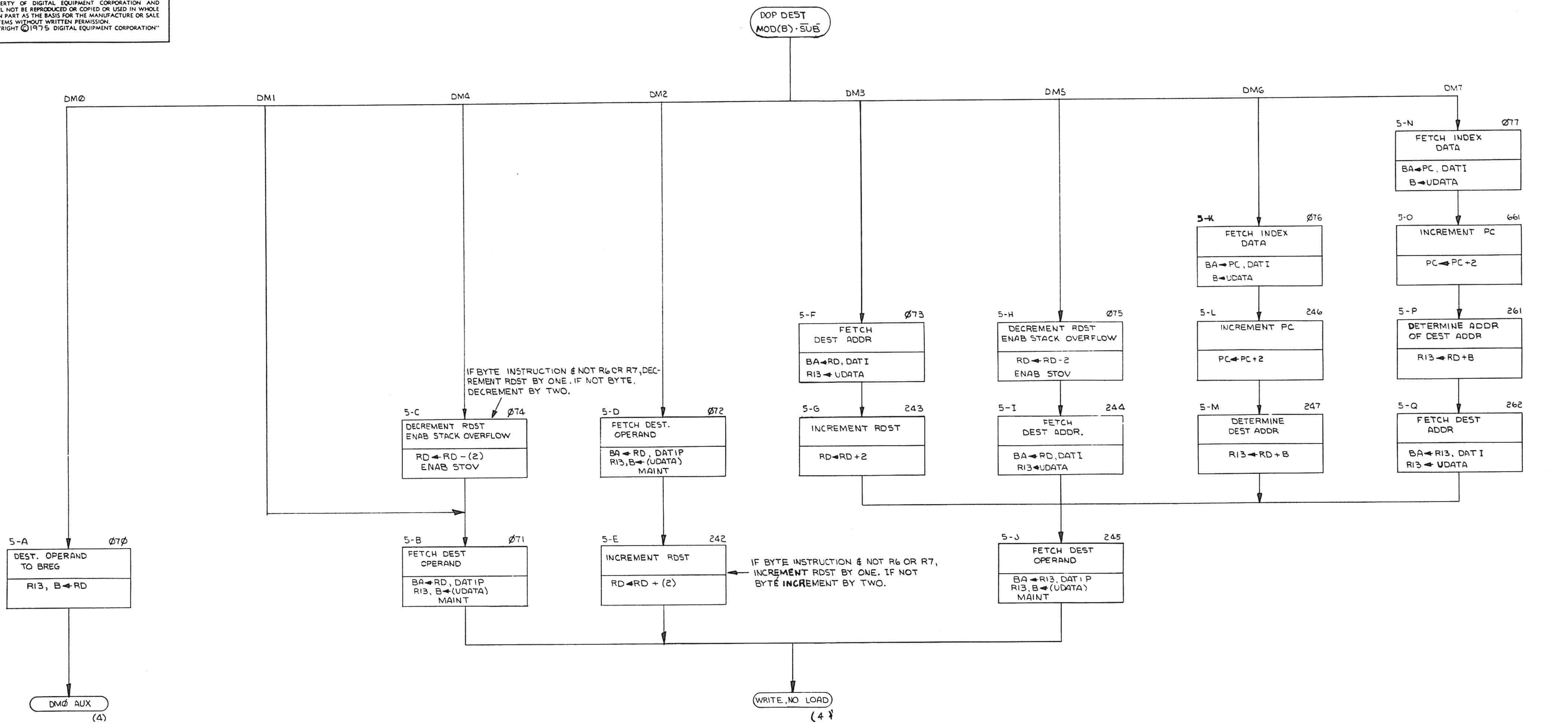
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KD11-EA FLOW DIAGRAMS
SCALE —/—
SHEET 4 OF 26

SIZE	CODE	NUMBER	REV.
D	FD	KD11-EA - 1	

DIST.

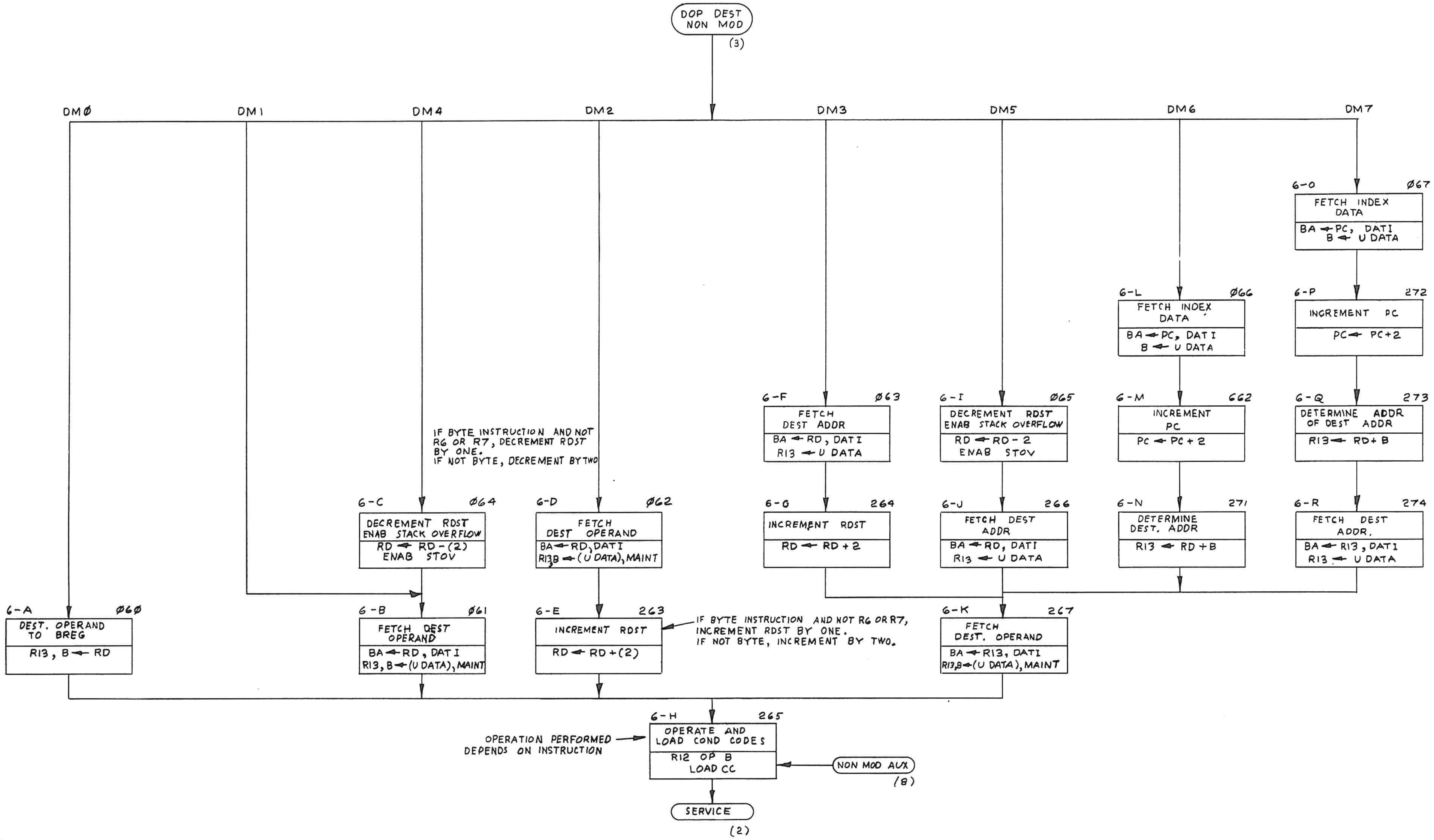
DEC FORM NO.
DRD 138



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KD11-EA FLOW DIAGRAMS
SIZE D
CODE FD
NUMBER KD11-EA-1
REV.
SCALE —/—
SHEET 5 OF 26
DIST.

DEC FORM NO.
DRD 138



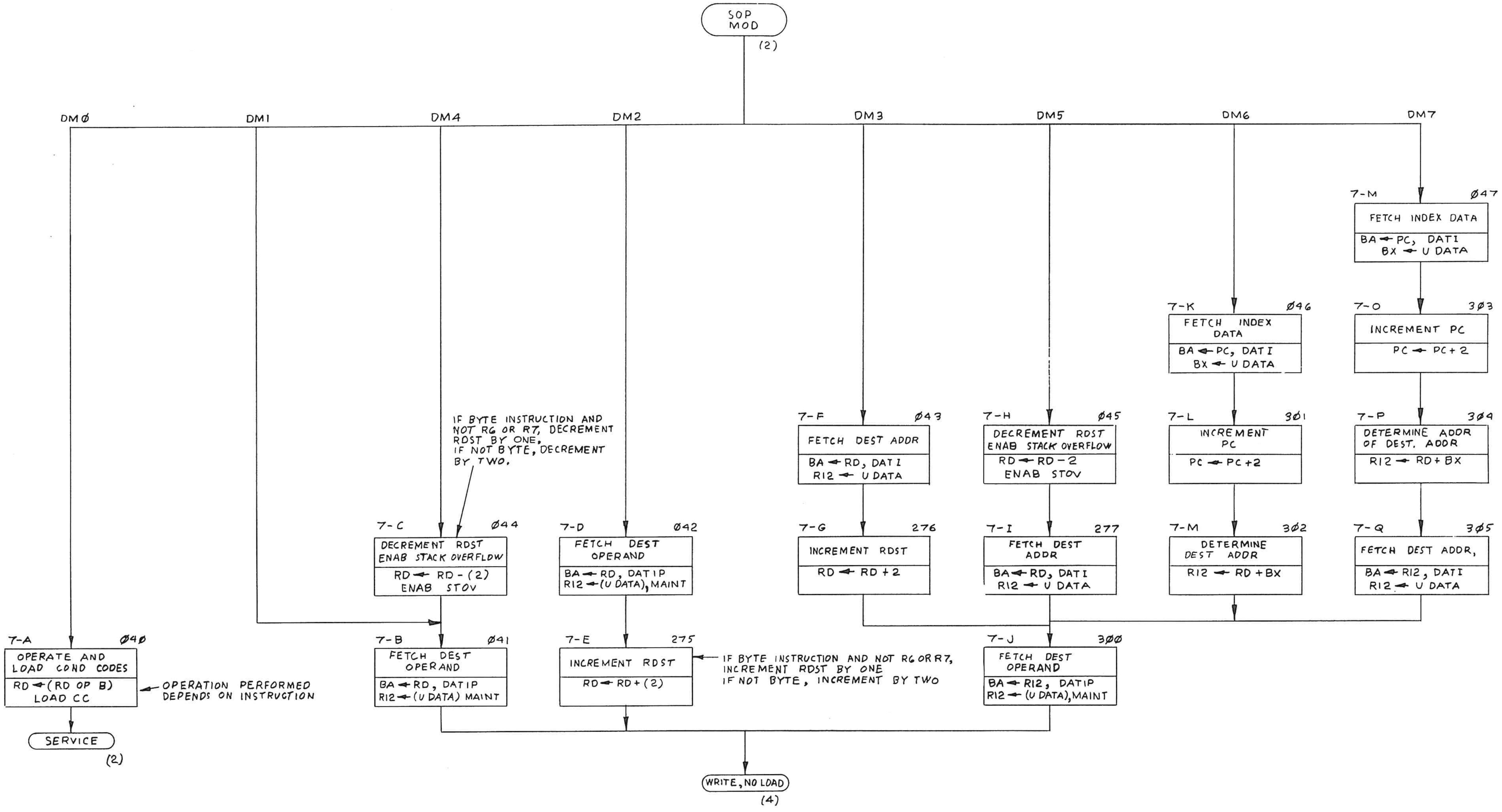
REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO.
DRD 138

TITLE KD11-EA FLOW DIAGRAMS

SIZE	CODE	NUMBER	REV.
D	FD	KD11-EA-1	

SCALE —/—
SHEET 6 OF 26
DIST.



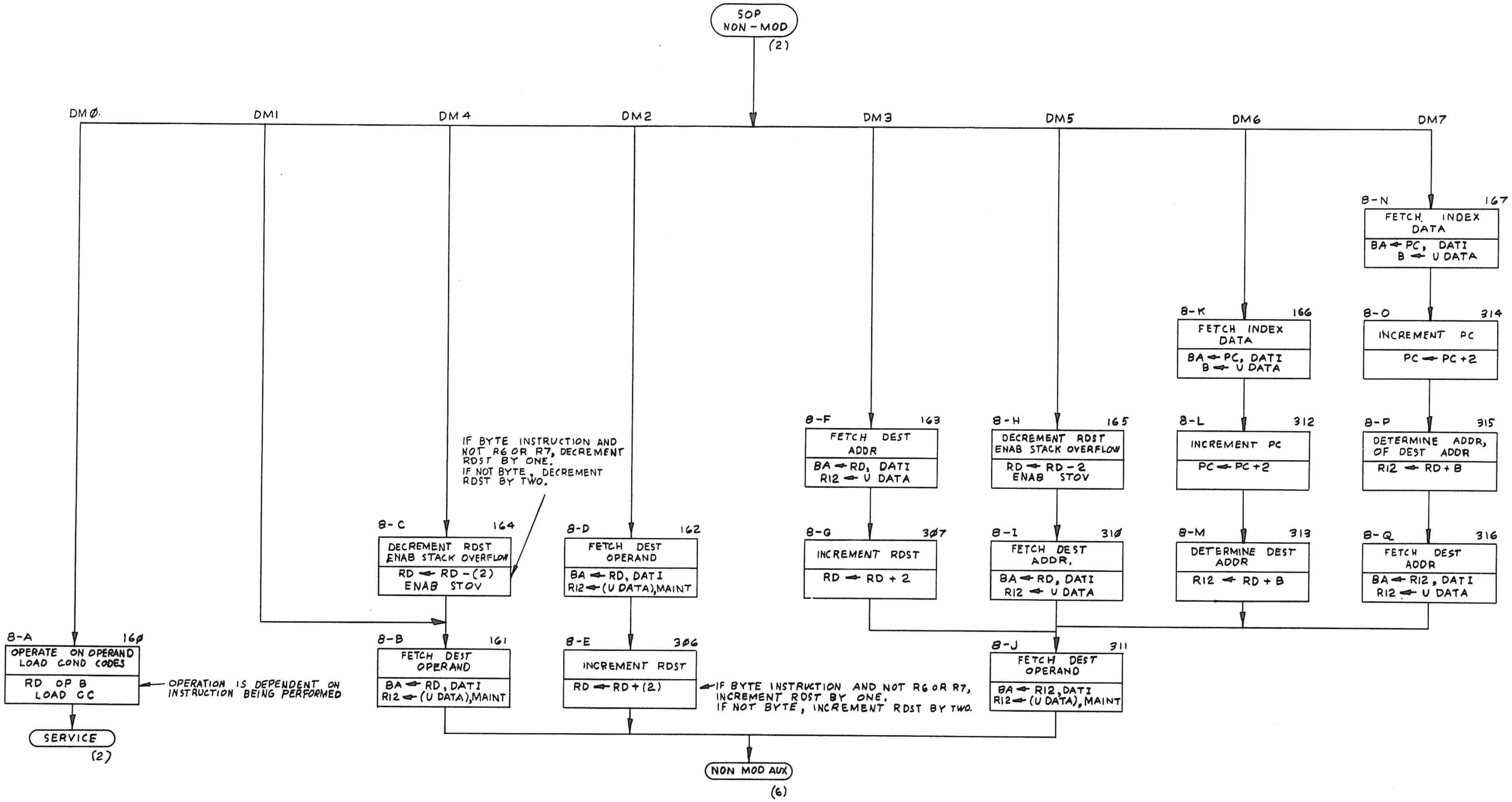
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KDII-EAFLOW DIAGRAMS

SIZE	CODE	NUMBER	REV.
D	FD	KDII-EA - I	

SCALE —/— SHEET 7 OF 26 DIST.

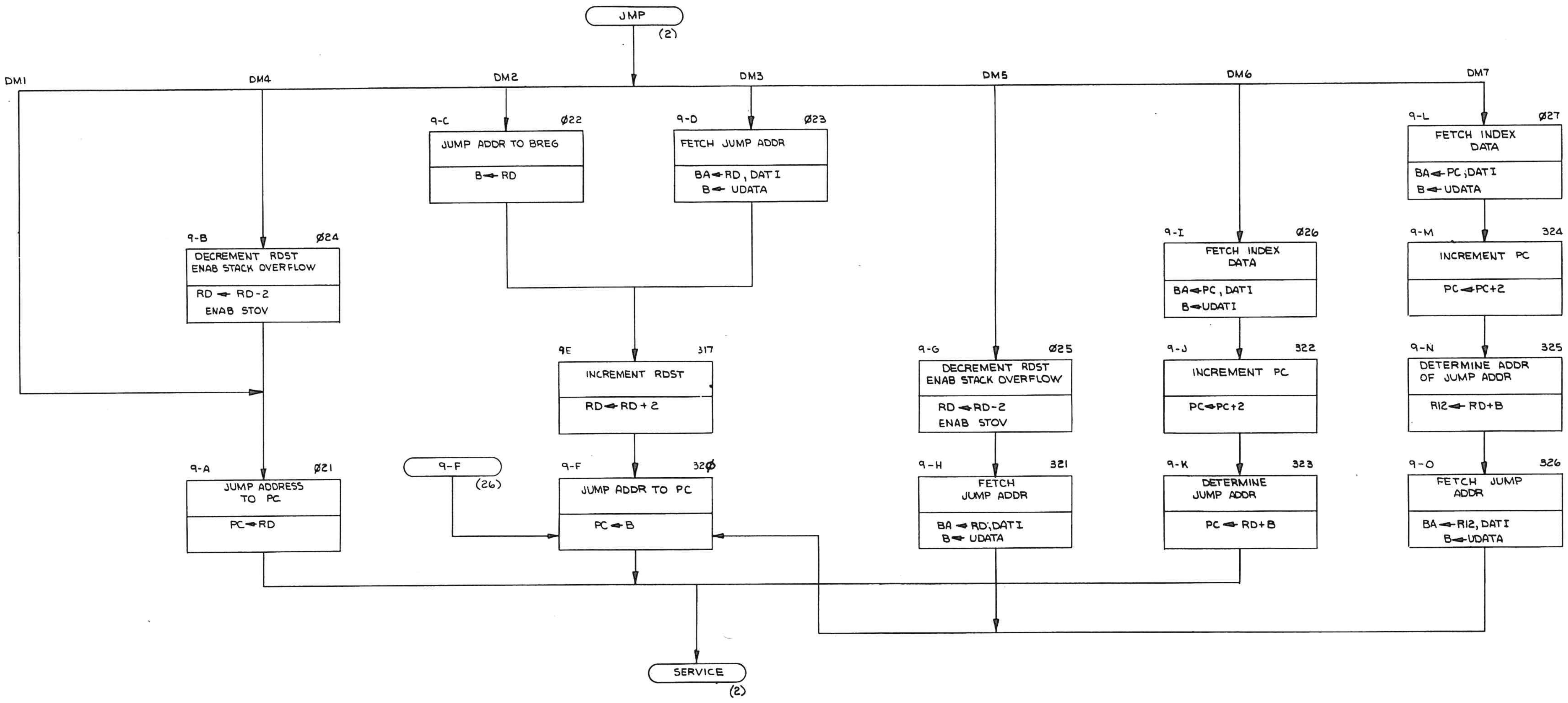
DEC FORM NO. DRD 138



REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO.
DRD 138

TITLE	SIZE	CODE	NUMBER	REV.
KDII-EAFLOW DIAGRAM	D	FD	KDII-EA-1	
SCALE — SHEET 8 OF 26	DIST.			



D C B A

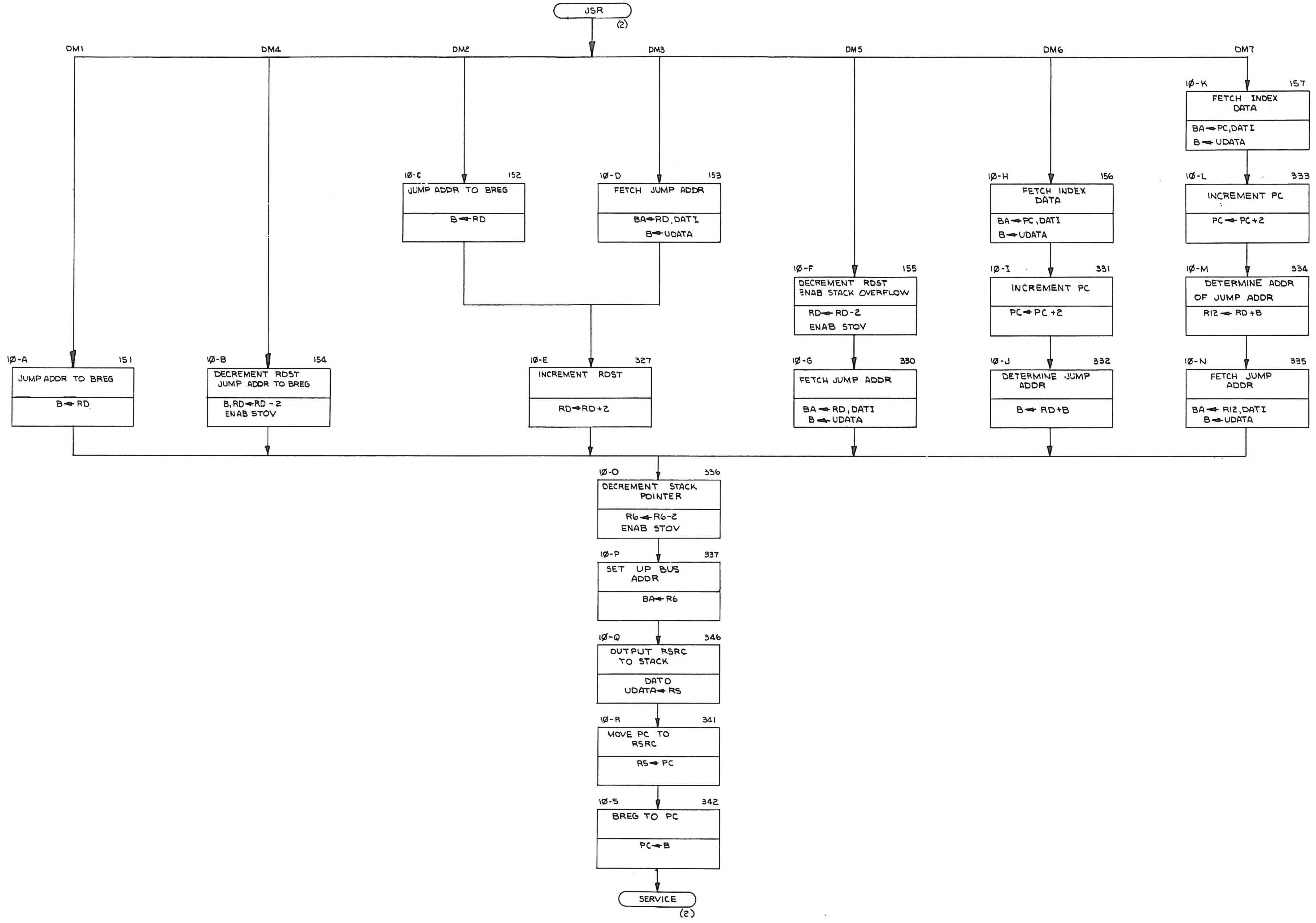
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KD11-EA FLOW DIAGRAMS

SIZE	CODE	NUMBER	REV.
D	FD	KD11-EA -1	

SCALE —/—/— SHEET 9 OF 26
DIST.

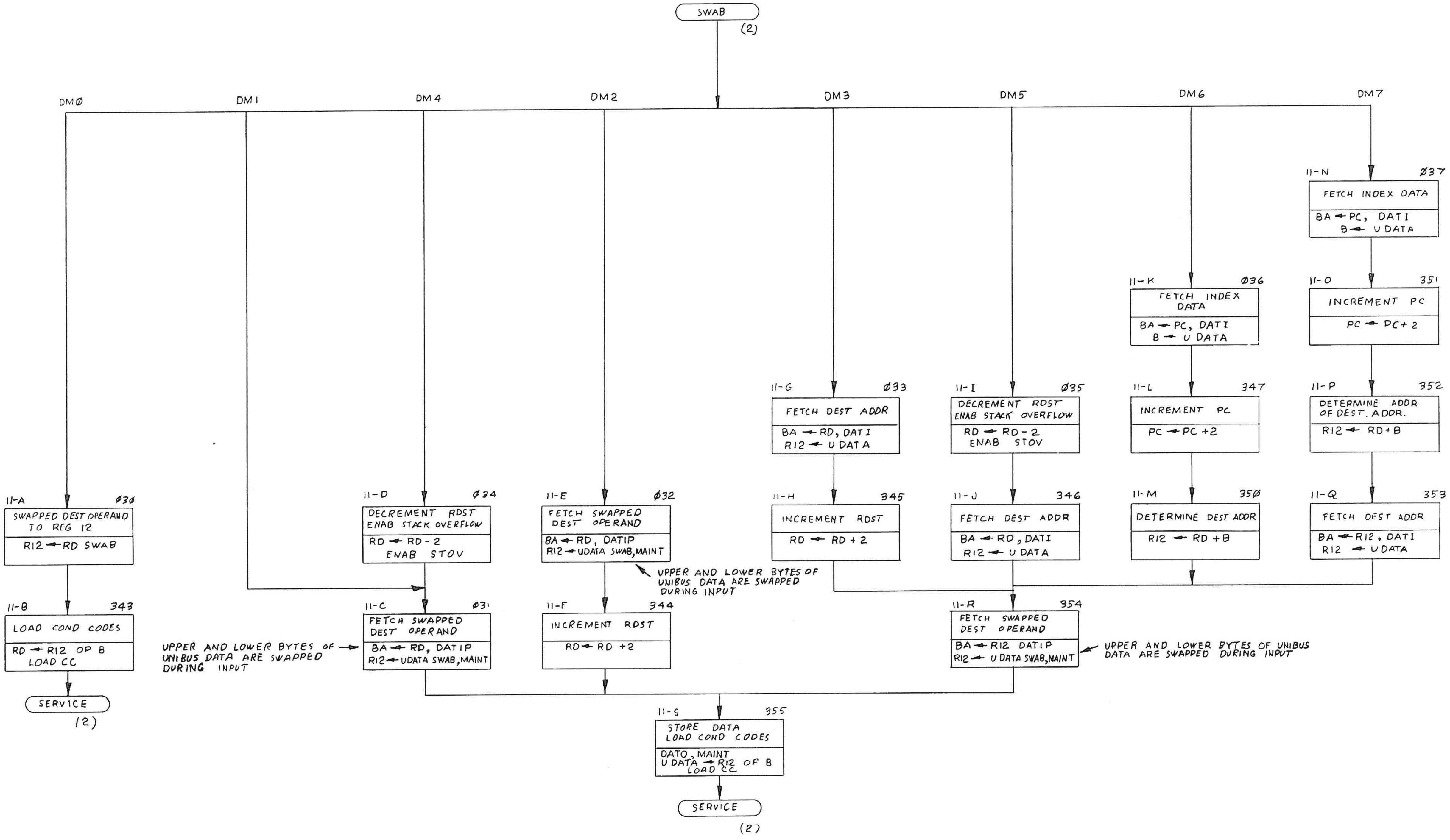
DEC FORM NO.
DRD 138



REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO.
DRD 138

TITLE KDII-EA FLOW DIAGRAMS
SIZE D CODE FD NUMBER KDII-EA-1 REV.
SCALE —/— SHEET 10 OF 26
DIST.

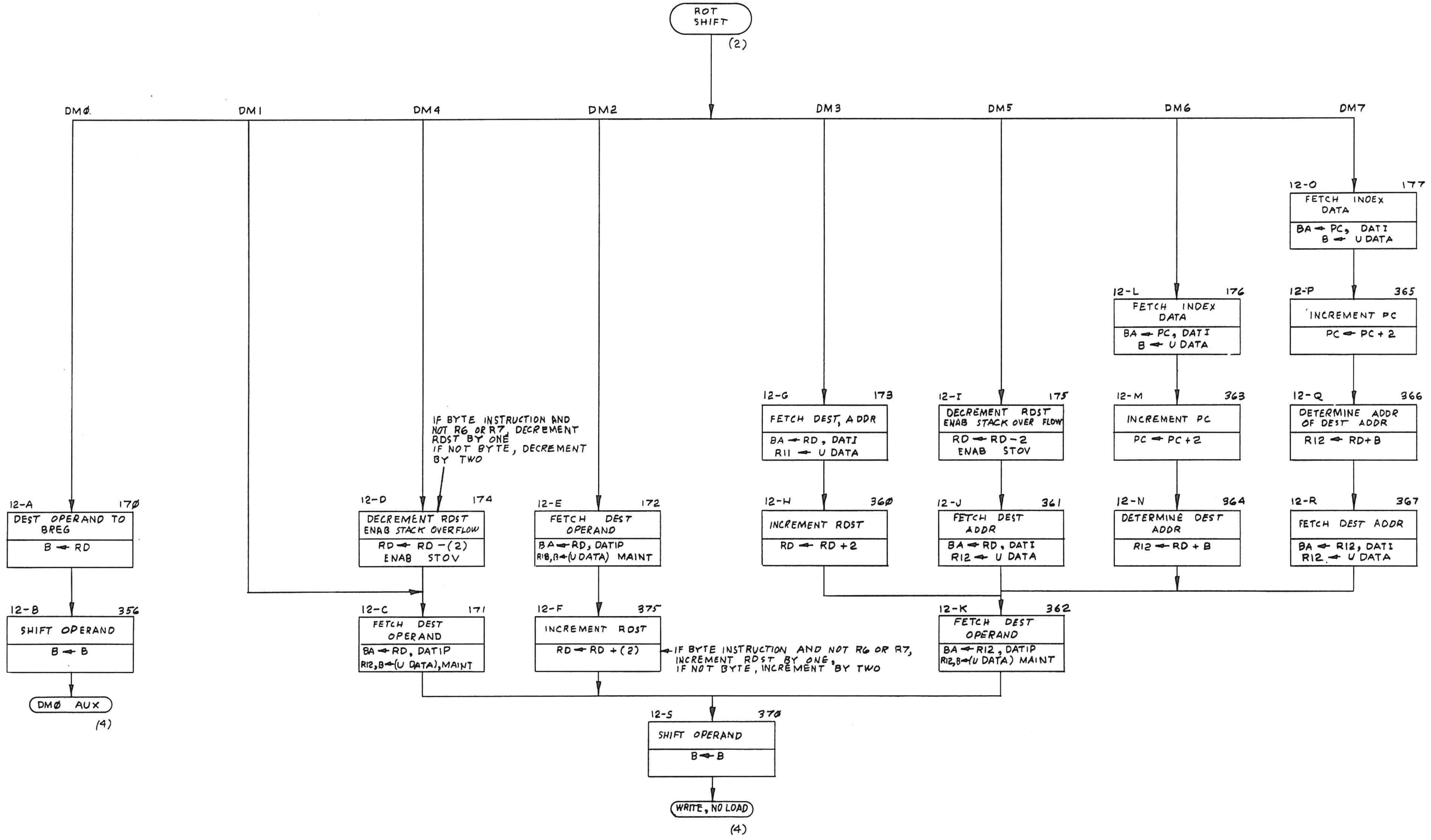


REVISIONS
CHK CHANGE NO REV

TITLE
KD11-EA FLOW DIAGRAMS
SIZE D CODE FD NUMBER KD11-EA-1 REV.
SCALE —/—/— SHEET 11 OF 26 DIST.

DEC FORM NO. DRD 138

SIZE D CODE FD NUMBER KD11-EA-1 REV



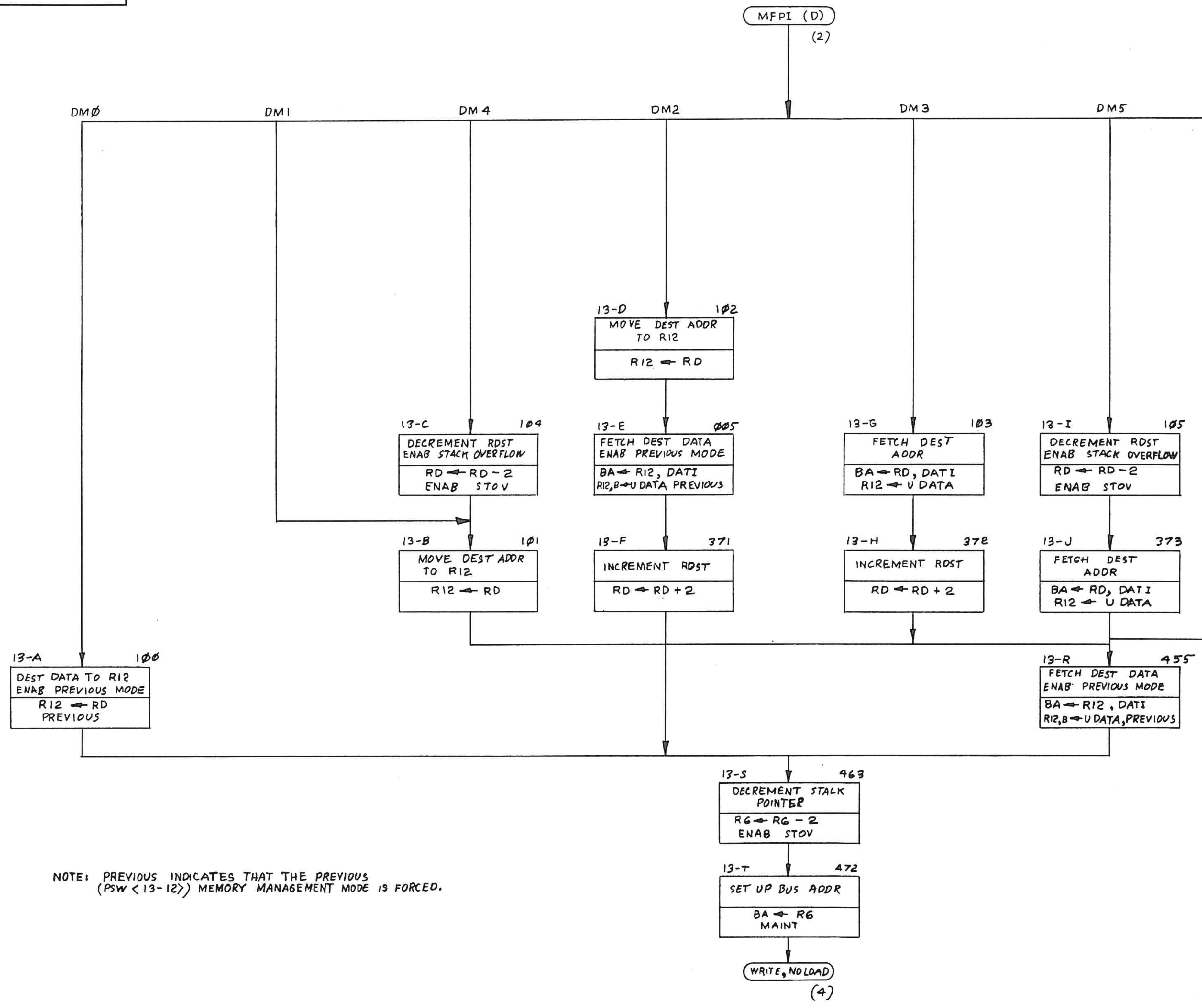
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE KD11-EA FLOW DIAGRAMS

SIZE D CODE FD NUMBER KD11-EA-1 REV.

SCALE —/— SHEET 12 OF 26 DIST.

DEC FORM NO. DRD 138



NOTE: PREVIOUS INDICATES THAT THE PREVIOUS (PSW <13-12>) MEMORY MANAGEMENT MODE IS FORCED.

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KD11-EA FLOW DIAGRAMS

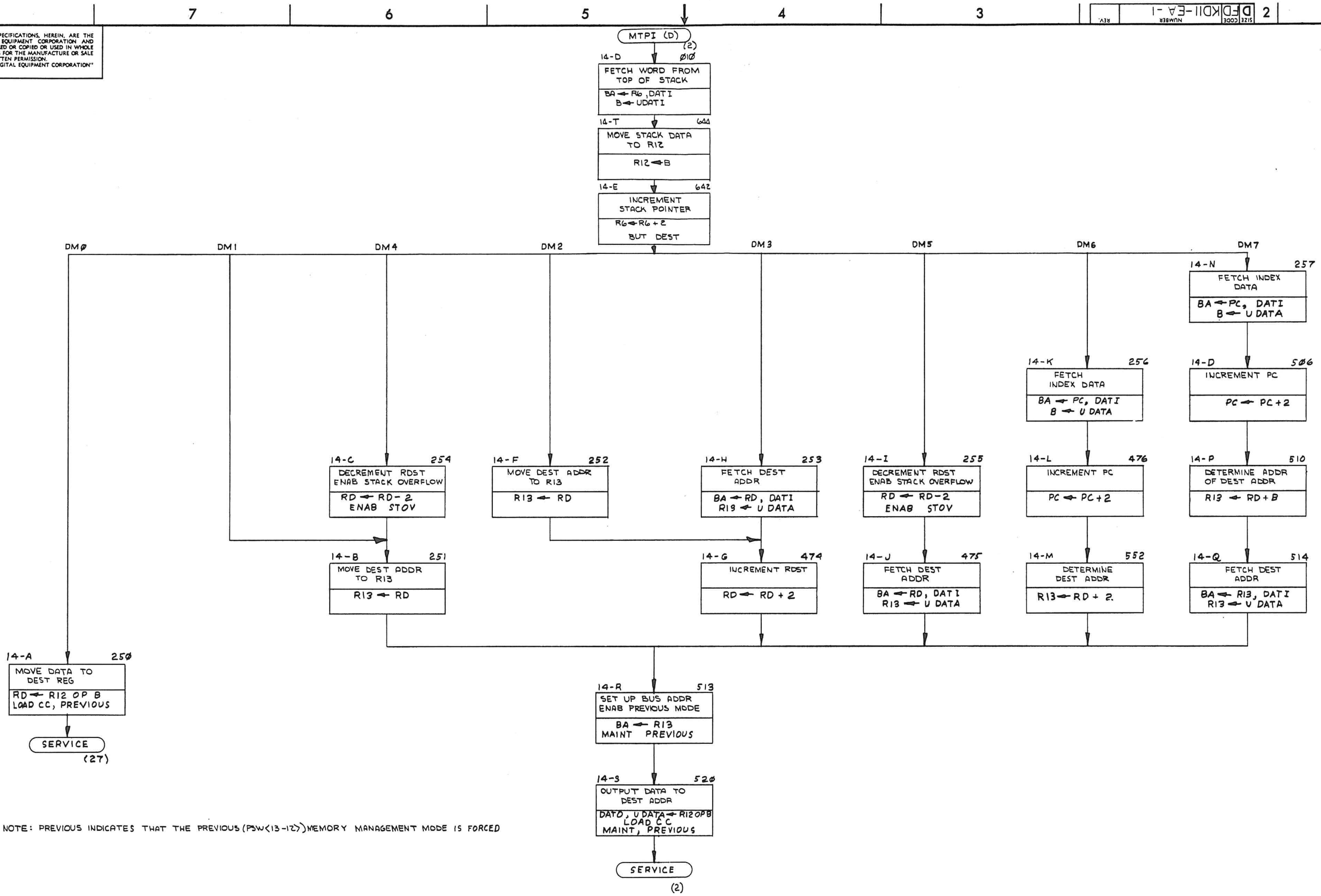
SIZE	CODE	NUMBER	REV.
D	FD	KD11-EA-1	

SCALE —/—
SHEET 13 OF 26
DIST.

DEC FORM NO.
DRD 138

SIZE D CODE FD NUMBER KD11-EA-1 REV.

SIZE D CODE FD NUMBER KD11-EA-1 REV.

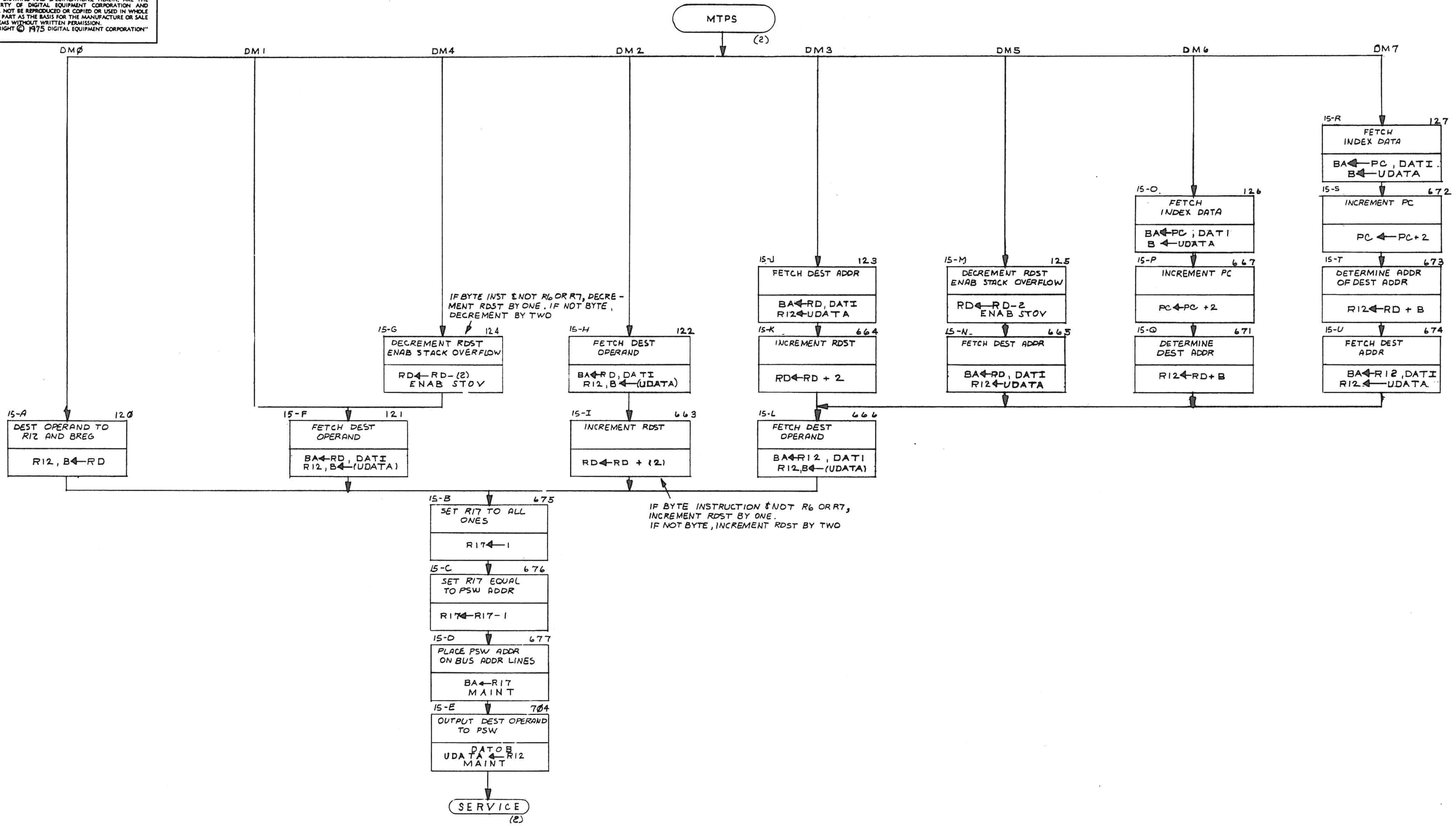


NOTE: PREVIOUS INDICATES THAT THE PREVIOUS (PSW<13-12>) MEMORY MANAGEMENT MODE IS FORCED

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
KD11-EA FLOW DIAGRAMS	D	FD	KD11-EA - 1	
SCALE — SHEET 14 OF 26	DIST.			

DEC FORM NO. DRD 138

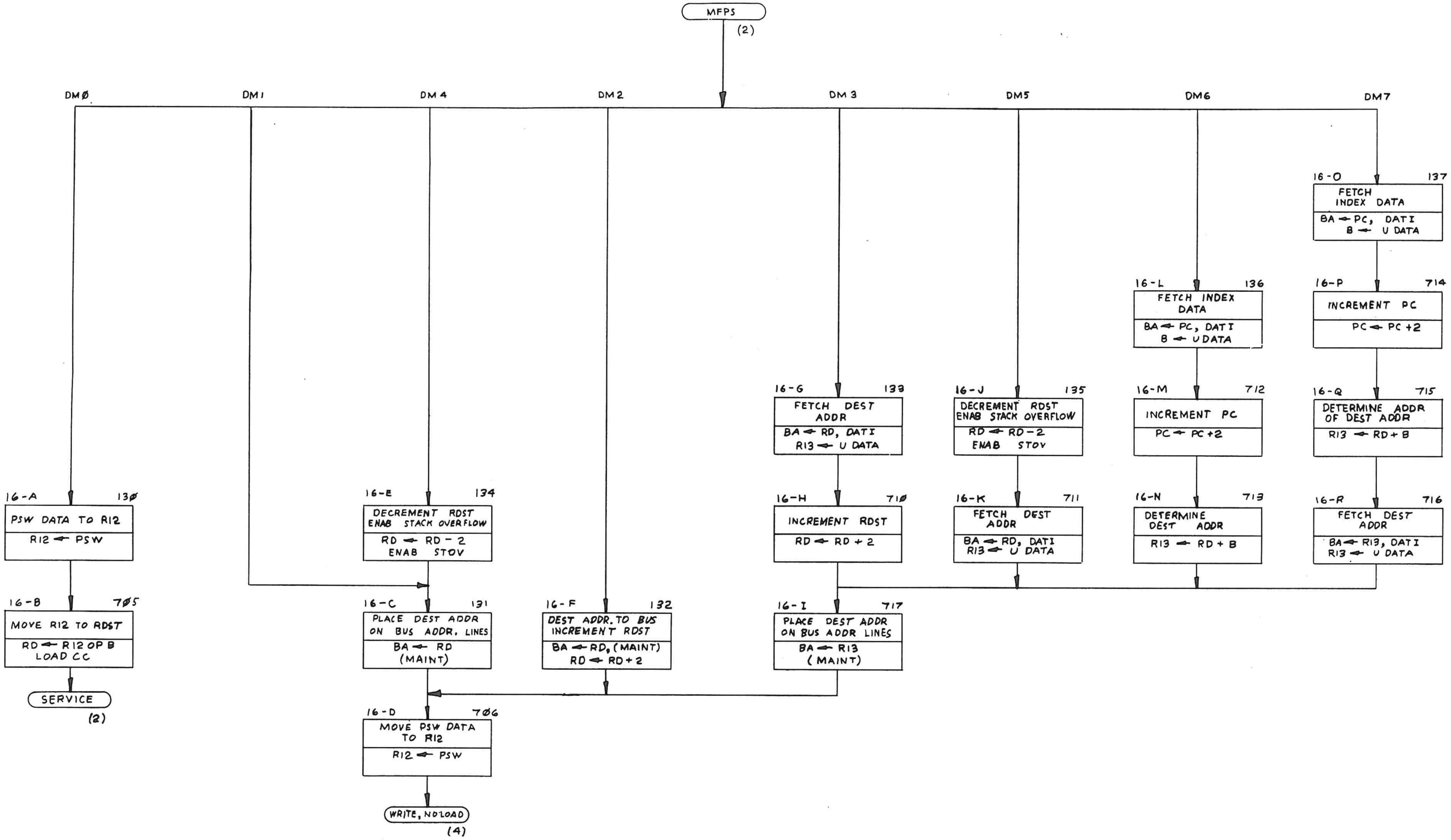


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KD11-EA FLOW DIAGRAMS
SCALE
SHEET 15 OF 26

SIZE D
CODE FD
NUMBER KD11-EA -1
REV.
DIST.

DEC FORM NO.
DRD 138



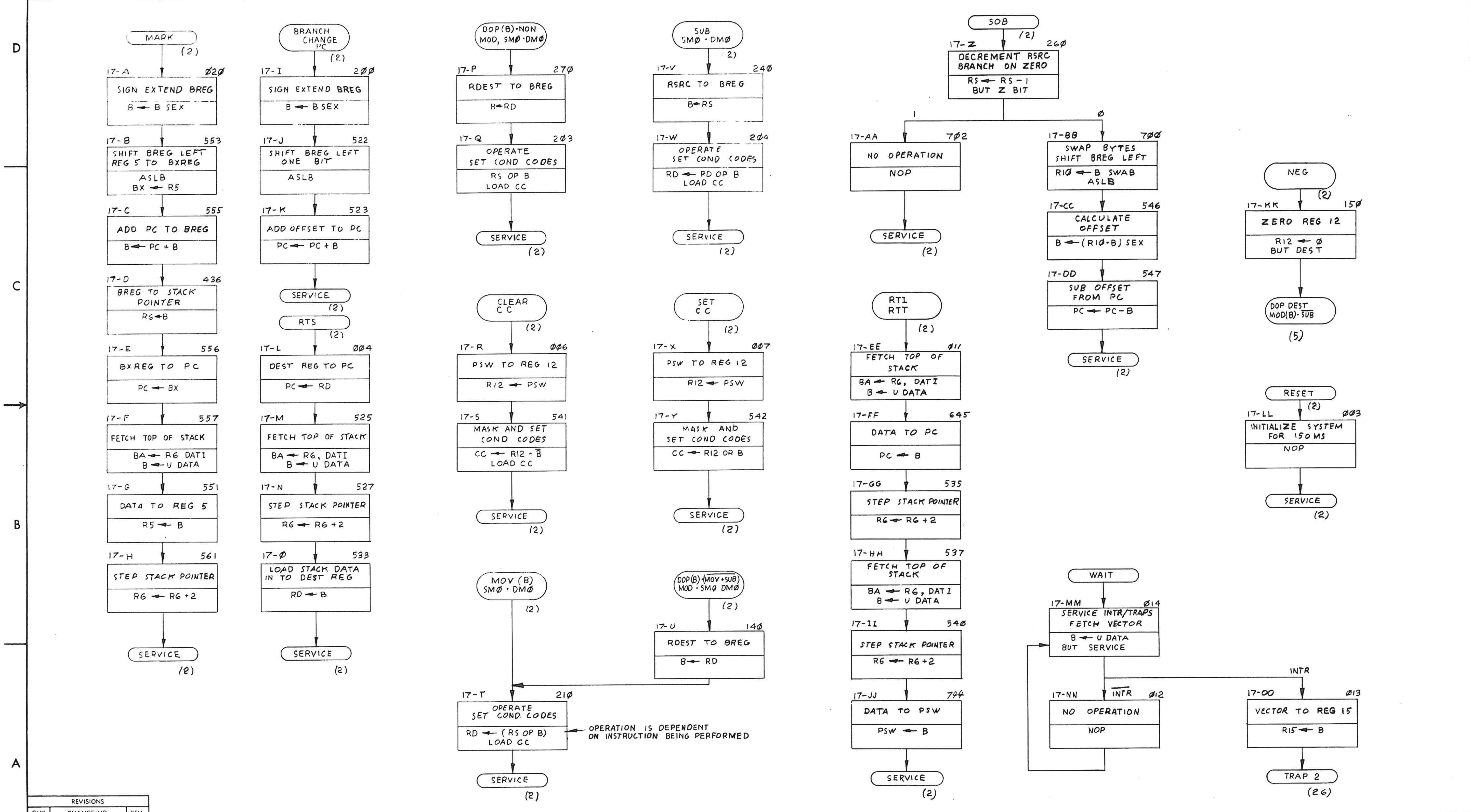
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KD11-EA FLOW DIAGRAMS

SIZE	CODE	NUMBER	REV.
D	FD	KD11-EA - 1	

SCALE ——
SHEET 16 OF 26
DIST.

DEC FORM NO. DRD 128



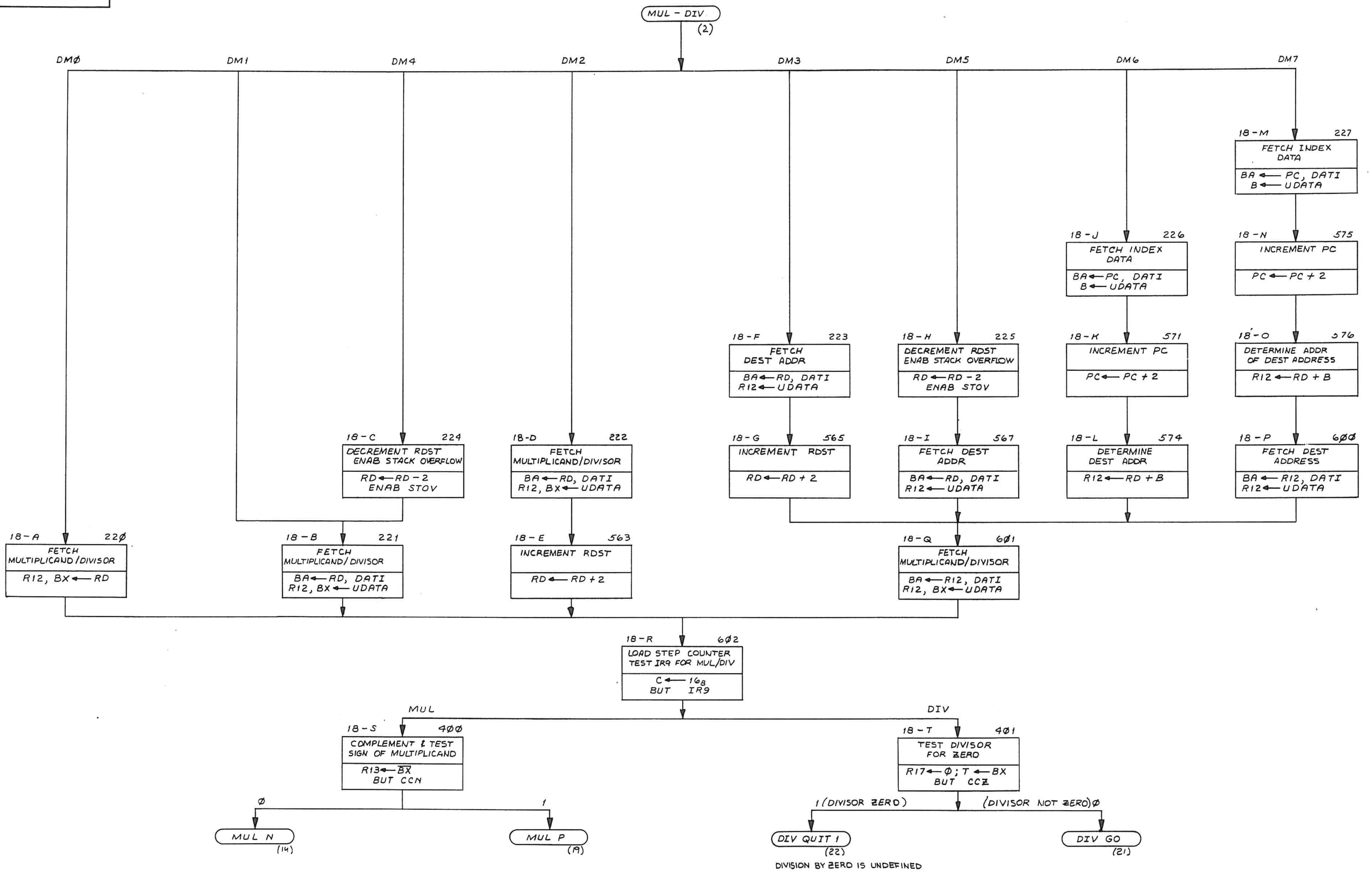
REVISIONS		
CHK	CHANGE NO	REV

TITLE
KD11-EA FLOW DIAGRAMS

SIZE	CODE	NUMBER	REV.
D	FD	KD11-EA - 1	

SCALE —/— SHEET 17 OF 26 DIST.

DEC FORM NO.
DRD 138



DIVISION BY ZERO IS UNDEFINED

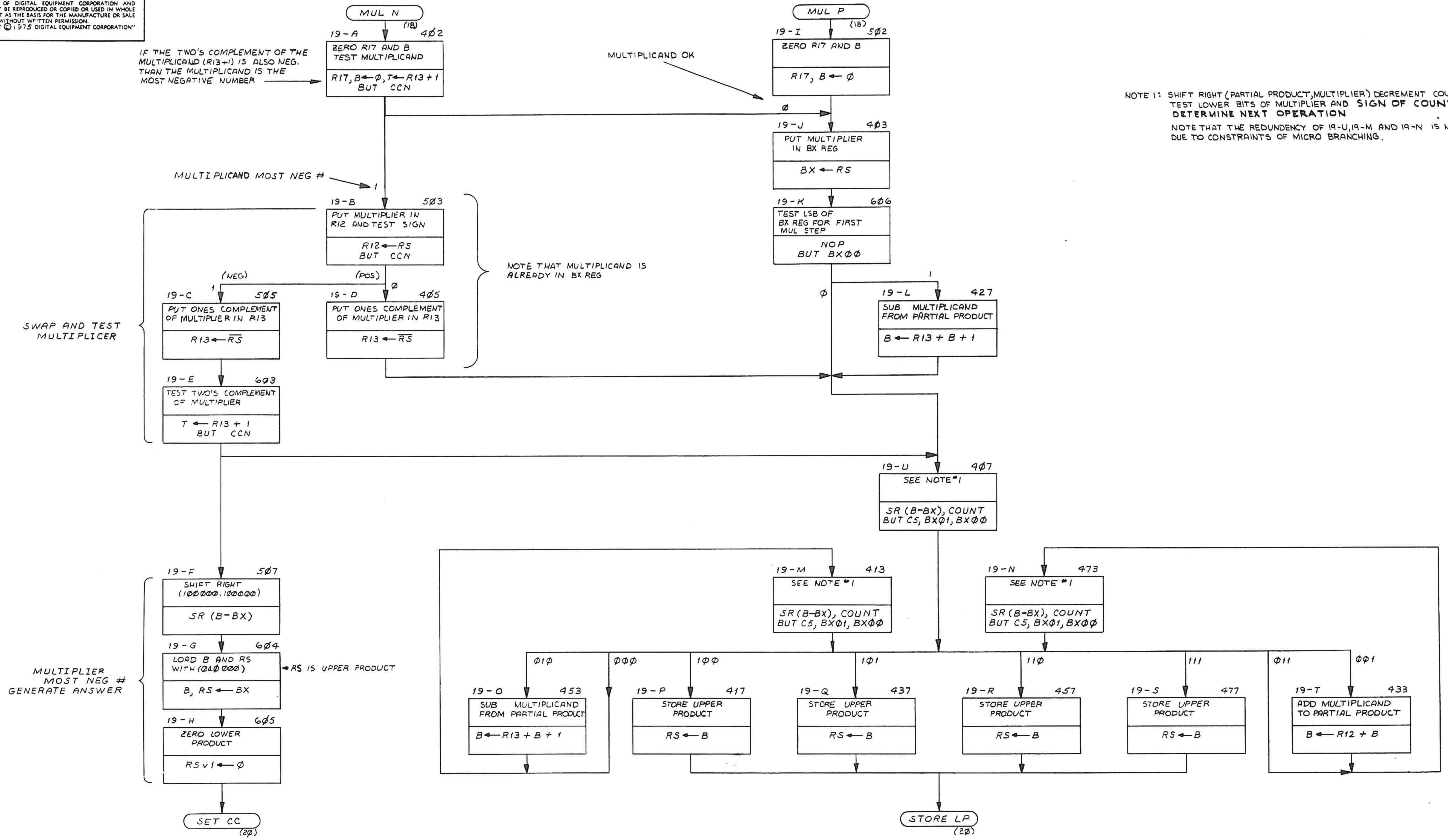
REVISIONS		
CHK	CHANGE NO.	REV

TITLE
KD11-EA FLOW DIAGRAMS

SIZE	CODE	NUMBER	REV.
D	FD	KD11-EA-1	

SCALE —/—
SHEET 18 OF 26
DIST.

DEC FORM NO. DRD 138


MUL N
(18)
19-A 402
ZERO R17 AND B TEST MULTIPLICAND
R17, B←0, T←R13+1 BUT CCN
IF THE TWO'S COMPLEMENT OF THE MULTIPLICAND (R13+1) IS ALSO NEG. THAN THE MULTIPLICAND IS THE MOST NEGATIVE NUMBER
MULTIPLICAND MOST NEG #
1
19-B 503
PUT MULTIPLIER IN R12 AND TEST SIGN
R12←RS BUT CCN
(NEG)
(POS)
1
0
19-C 505
PUT ONES COMPLEMENT OF MULTIPLIER IN R13
R13←$\overline{RS}$
19-D 405
PUT ONES COMPLEMENT OF MULTIPLIER IN R13
R13←$\overline{RS}$
NOTE THAT MULTIPLICAND IS ALREADY IN BX REG
SWAP AND TEST MULTIPLICER
19-E 603
TEST TWO'S COMPLEMENT OF MULTIPLIER
T←R13 + 1 BUT CCN
19-F 507
SHIFT RIGHT (100000, 100000)
SR (B-BX)
19-G 604
LOAD B AND RS WITH (040 000)
B, RS←BX
RS IS UPPER PRODUCT
MULTIPLIER MOST NEG # GENERATE ANSWER
19-H 605
ZERO LOWER PRODUCT
RS v 1←0
SET CC
(20)
MUL P
(18)
19-I 502
ZERO R17 AND B
R17, B←0
MULTIPLICAND OK
0
19-J 403
PUT MULTIPLIER IN BX REG
BX←RS
19-K 606
TEST LSB OF BX REG FOR FIRST MUL STEP
NOP BUT BX00
1
0
19-L 427
SUB MULTIPLICAND FROM PARTIAL PRODUCT
B←R13 + B + 1
19-U 407
SEE NOTE #1
SR (B-BX), COUNT BUT C5, BX01, BX00
19-M 413
SEE NOTE #1
SR (B-BX), COUNT BUT C5, BX01, BX00
19-N 473
SEE NOTE #1
SR (B-BX), COUNT BUT C5, BX01, BX00
010
000
100
101
110
111
011
001
19-O 453
SUB MULTIPLICAND FROM PARTIAL PRODUCT
B←R13 + B + 1
19-P 417
STORE UPPER PRODUCT
RS←B
19-Q 437
STORE UPPER PRODUCT
RS←B
19-R 457
STORE UPPER PRODUCT
RS←B
19-S 477
STORE UPPER PRODUCT
RS←B
19-T 433
ADD MULTIPLICAND TO PARTIAL PRODUCT
B←R12 + B
STORE LP
(20)

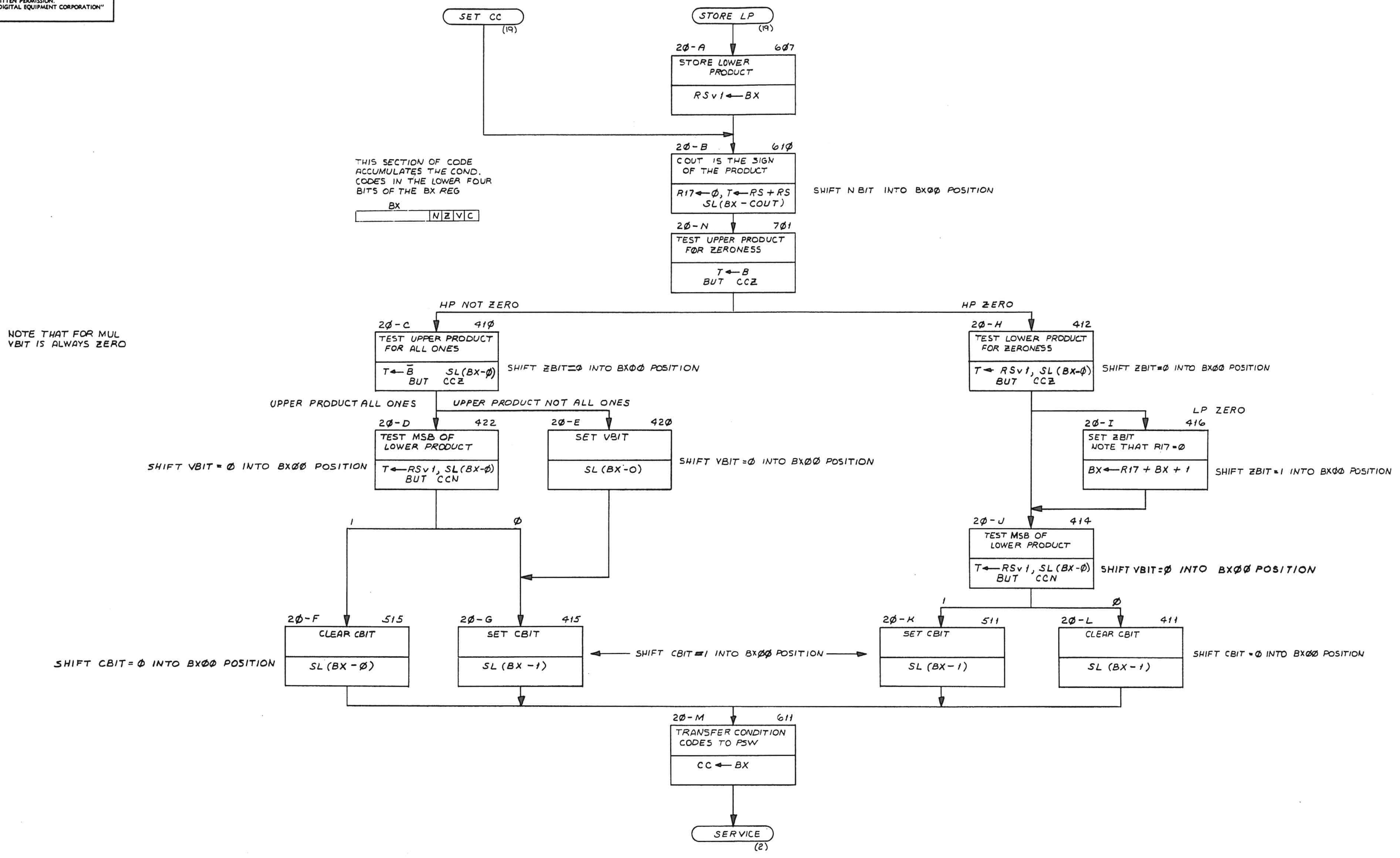
NOTE 1: SHIFT RIGHT (PARTIAL PRODUCT, MULTIPLIER) DECREMENT COUNTER TEST LOWER BITS OF MULTIPLIER AND SIGN OF COUNTER TO DETERMINE NEXT OPERATION

NOTE THAT THE REDUNDENCY OF 19-U, 19-M AND 19-N IS NECESSARY DUE TO CONSTRAINTS OF MICRO BRANCHING.

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
KD11-EA FLOW DIAGRAMS	D	FD	KD11-EA -1	
SCALE — SHEET 19 OF 26	DIST.			

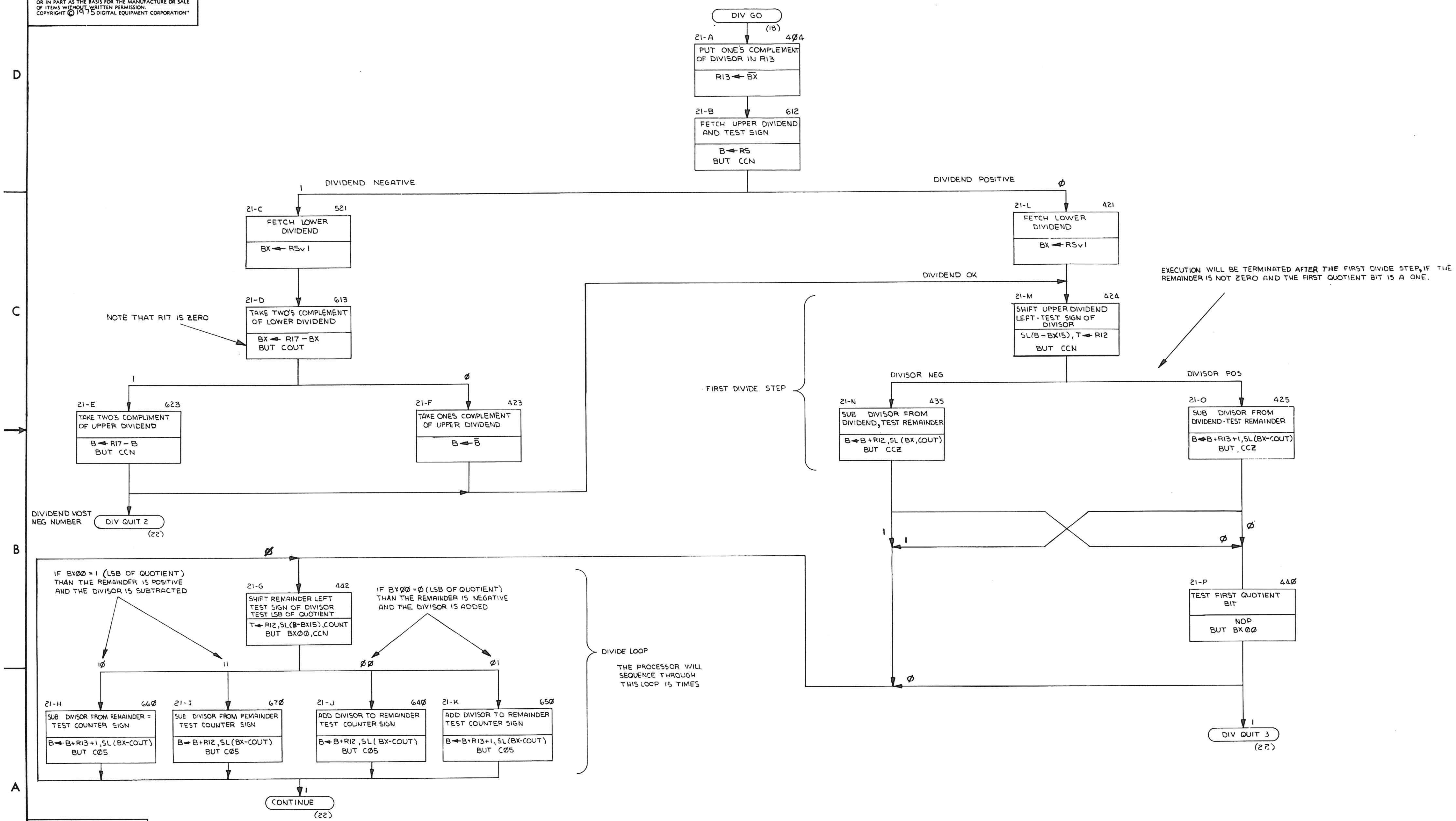
DEC FORM NO.


SET CC
(19)
STORE LP
(19)
20-A 607
STORE LOWER PRODUCT
RSv1 ← BX
20-B 610
COUT IS THE SIGN OF THE PRODUCT
R17 ← 0, T ← RS + RS
SL(BX - COUT)
SHIFT N BIT INTO BX00 POSITION
THIS SECTION OF CODE ACCUMULATES THE COND. CODES IN THE LOWER FOUR BITS OF THE BX REG
BX
N Z V C
20-N 701
TEST UPPER PRODUCT FOR ZERONESS
T ← B
BUT CCZ
HP NOT ZERO
HP ZERO
NOTE THAT FOR MUL VBIT IS ALWAYS ZERO
20-C 410
TEST UPPER PRODUCT FOR ALL ONES
T ← $\bar{B}$ SL(BX-0)
BUT CCZ
SHIFT ZBIT=0 INTO BX00 POSITION
UPPER PRODUCT ALL ONES
UPPER PRODUCT NOT ALL ONES
20-D 422
TEST MSB OF LOWER PRODUCT
T ← RSv1, SL(BX-0)
BUT CCN
SHIFT VBIT = 0 INTO BX00 POSITION
20-E 420
SET VBIT
SL (BX-0)
SHIFT VBIT = 0 INTO BX00 POSITION
1
0
20-F 515
CLEAR CBIT
SL (BX - 0)
SHIFT CBIT = 0 INTO BX00 POSITION
20-G 415
SET CBIT
SL (BX - 1)
SHIFT CBIT = 1 INTO BX00 POSITION
20-H 412
TEST LOWER PRODUCT FOR ZERONESS
T ← RSv1, SL (BX-0)
BUT CCZ
SHIFT ZBIT = 0 INTO BX00 POSITION
LP ZERO
20-I 416
SET ZBIT
NOTE THAT R17 = 0
BX ← R17 + BX + 1
SHIFT ZBIT = 1 INTO BX00 POSITION
20-J 414
TEST MSB OF LOWER PRODUCT
T ← RSv1, SL (BX-0)
BUT CCN
SHIFT VBIT = 0 INTO BX00 POSITION
1
0
20-K 511
SET CBIT
SL (BX-1)
20-L 411
CLEAR CBIT
SL (BX - 1)
SHIFT CBIT = 0 INTO BX00 POSITION
20-M 611
TRANSFER CONDITION CODES TO PSW
CC ← BX
SERVICE
(2)

REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO.
DRD 138

TITLE	SIZE	CODE	NUMBER	REV.
KD11-EA FLOW DIAGRAMS	D	FD	KD11-EA-1	
SCALE — SHEET 20 OF 26	DIST.			


DIV GO
(18)
21-A 404
PUT ONE'S COMPLEMENT OF DIVISOR IN R13
R13 ← B̄X
21-B 612
FETCH UPPER DIVIDEND AND TEST SIGN
B ← RS
BUT CCN
DIVIDEND NEGATIVE
1
DIVIDEND POSITIVE
0
21-C 521
FETCH LOWER DIVIDEND
BX ← RSv1
21-D 613
TAKE TWO'S COMPLEMENT OF LOWER DIVIDEND
BX ← R17 - BX
BUT COUT
NOTE THAT R17 IS ZERO
1
0
21-E 623
TAKE TWO'S COMPLIMENT OF UPPER DIVIDEND
B ← R17 - B
BUT CCN
21-F 423
TAKE ONES COMPLEMENT OF UPPER DIVIDEND
B ← B̄
DIVIDEND MOST NEG NUMBER
DIV QUIT 2
(22)
21-L 421
FETCH LOWER DIVIDEND
BX ← RSv1
DIVIDEND OK
21-M 424
SHIFT UPPER DIVIDEND LEFT-TEST SIGN OF DIVISOR
SL(B - BX15), T ← R12
BUT CCN
EXECUTION WILL BE TERMINATED AFTER THE FIRST DIVIDE STEP, IF THE REMAINDER IS NOT ZERO AND THE FIRST QUOTIENT BIT IS A ONE.
FIRST DIVIDE STEP
DIVISOR NEG
DIVISOR POS
21-N 435
SUB DIVISOR FROM DIVIDEND, TEST REMAINDER
B ← B + R12, SL (BX, COUT)
BUT CCZ
21-O 425
SUB DIVISOR FROM DIVIDEND-TEST REMAINDER
B ← B + R13 + 1, SL(BX-COUT)
BUT CCZ
1
1
0
0
21-P 440
TEST FIRST QUOTIENT BIT
NOP
BUT BX00
0
1
DIV QUIT 3
(22)
0
IF BX00 = 1 (LSB OF QUOTIENT) THAN THE REMAINDER IS POSITIVE AND THE DIVISOR IS SUBTRACTED
21-G 442
SHIFT REMAINDER LEFT TEST SIGN OF DIVISOR TEST LSB OF QUOTIENT
T ← R12, SL(B-BX15), COUNT
BUT BX00, CCN
IF BX00 = 0 (LSB OF QUOTIENT) THAN THE REMAINDER IS NEGATIVE AND THE DIVISOR IS ADDED
10
11
00
01
DIVIDE LOOP
THE PROCESSOR WILL SEQUENCE THROUGH THIS LOOP 15 TIMES
21-H 660
SUB DIVISOR FROM REMAINDER = TEST COUNTER SIGN
B ← B + R13 + 1, SL (BX-COUT)
BUT C05
21-I 670
SUB DIVISOR FROM REMAINDER TEST COUNTER SIGN
B ← B + R12, SL (BX-COUT)
BUT C05
21-J 640
ADD DIVISOR TO REMAINDER TEST COUNTER SIGN
B ← B + R12, SL(BX-COUT)
BUT C05
21-K 650
ADD DIVISOR TO REMAINDER TEST COUNTER SIGN
B ← B + R13 + 1, SL (BX-COUT)
BUT C05
1
CONTINUE
(22)

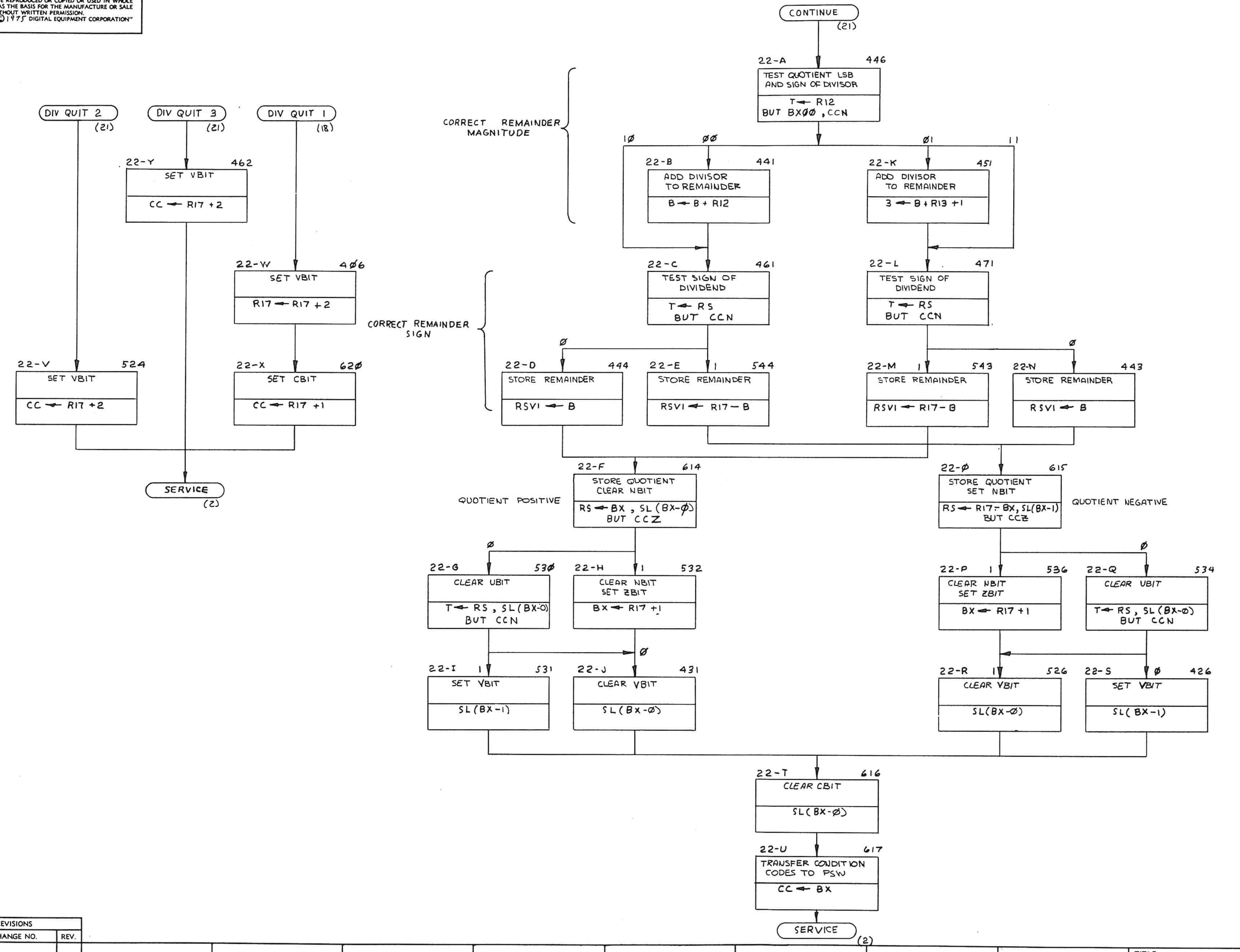
REVISIONS		
CHK	CHANGE NO	REV

TITLE
KD11-EA FLOW DIAGRAMS

SIZE	CODE	NUMBER	REV.
D	FD	KD11-EA-1	

SCALE
SHEET 21 OF 26
DIST.

DEC FORM NO.
DRD 138



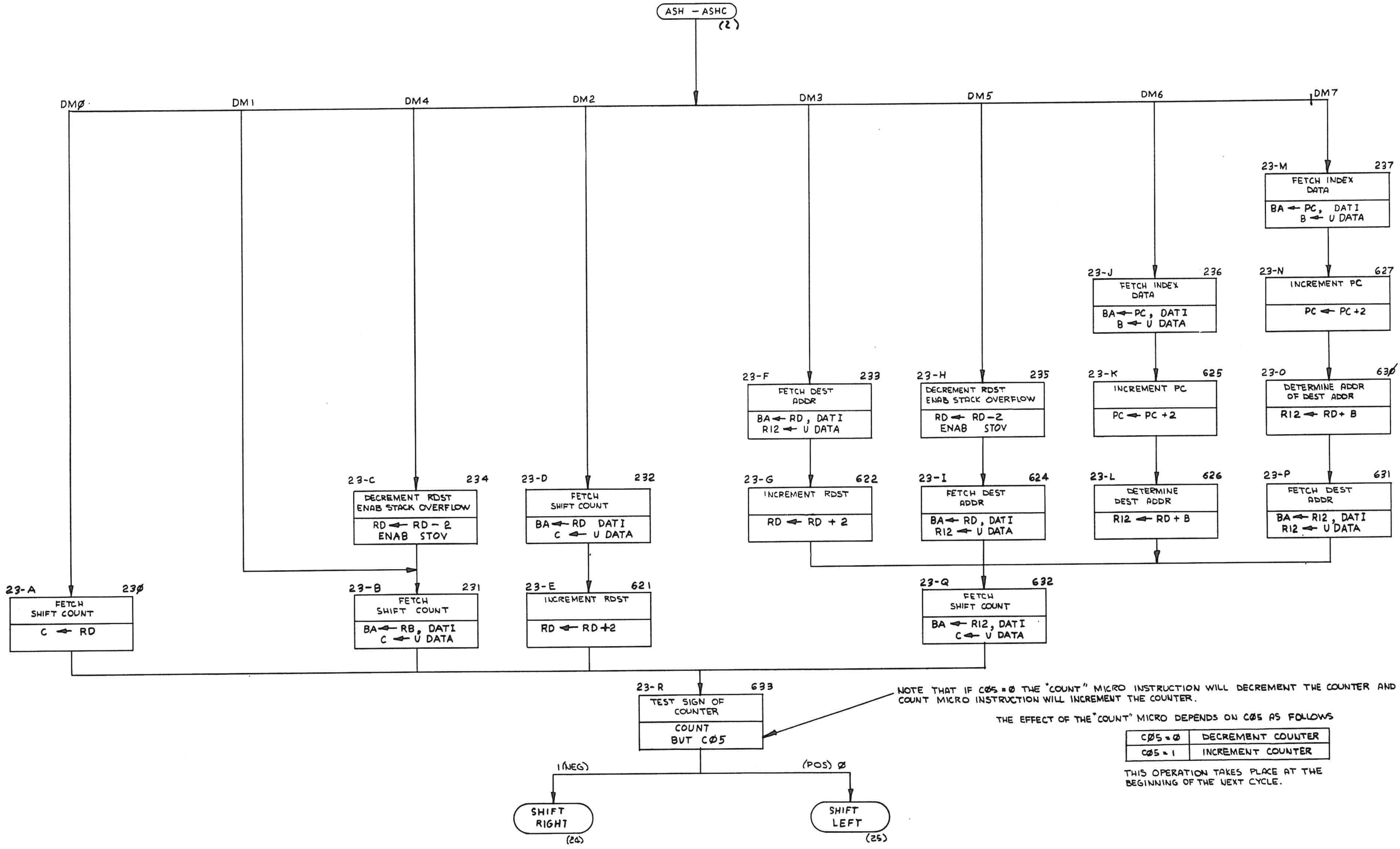
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KD11-EA FLOW DIAGRAMS

SIZE	CODE	NUMBER	REV.
D	FD	KD11-EA-1	

SCALE —/—
SHEET 22 OF 26
DIST.

DEC FORM NO.
DRD 138



NOTE THAT IF C05 = 0 THE "COUNT" MICRO INSTRUCTION WILL DECREMENT THE COUNTER AND IF C05 = 1 THE COUNT MICRO INSTRUCTION WILL INCREMENT THE COUNTER.

THE EFFECT OF THE "COUNT" MICRO DEPENDS ON C05 AS FOLLOWS

C05 = 0	DECREMENT COUNTER
C05 = 1	INCREMENT COUNTER

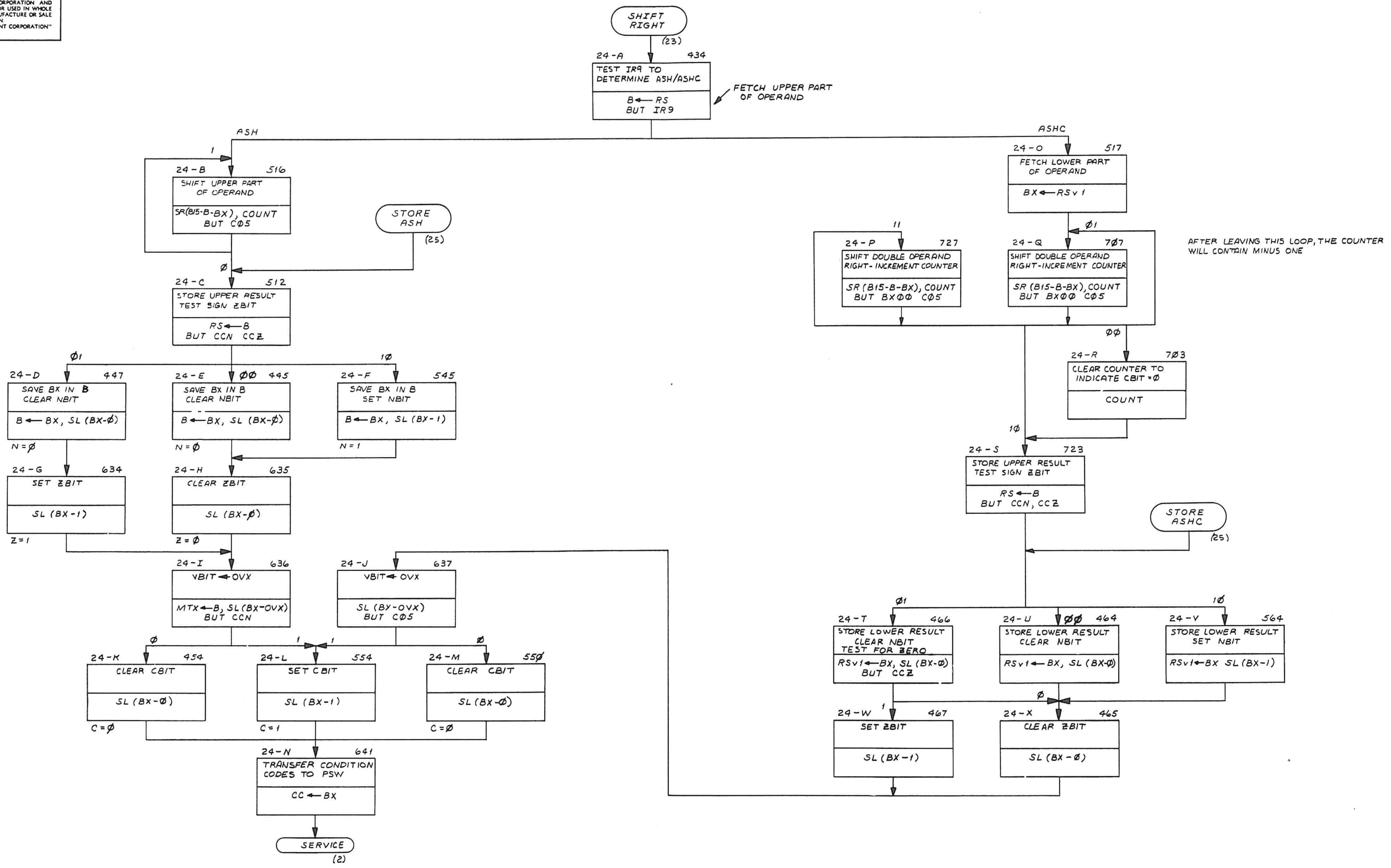
THIS OPERATION TAKES PLACE AT THE BEGINNING OF THE NEXT CYCLE.

REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO.
DRD 138

TITLE
KD11-EA FLOW DIAGRAMS

SIZE D
CODE FD
NUMBER KD11-EA - 1
REV.
SCALE
SHEET 23 OF 26
DIST.



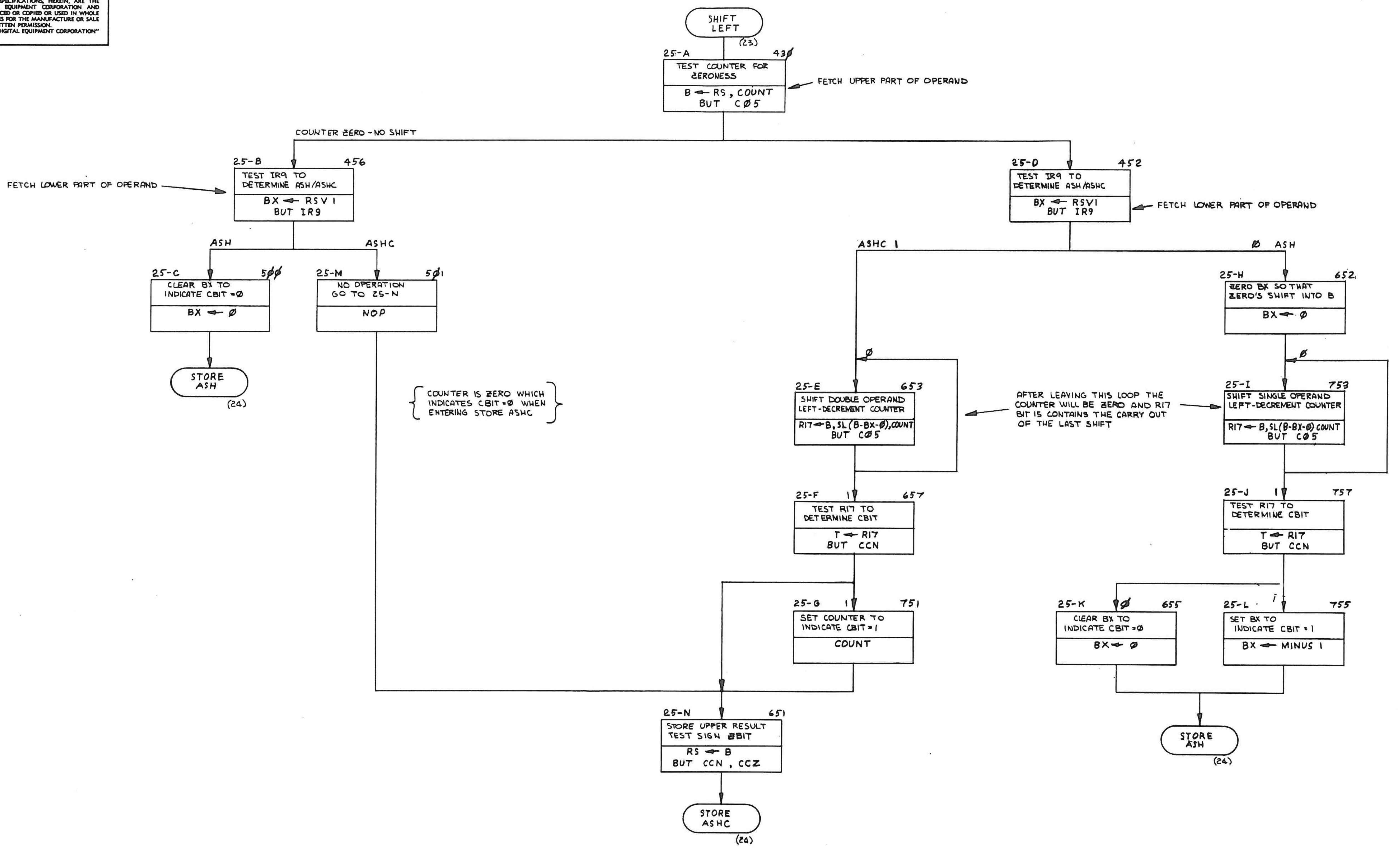
REVISIONS		
CHK	CHANGE NO	REV

DEC FORM NO.
DRD 138

TITLE
KD11-EA FLOW DIAGRAMS
SCALE
SHEET 24 OF 26

SIZE	CODE	NUMBER	REV.
D	FD	KD11-EA-1	

DIST.

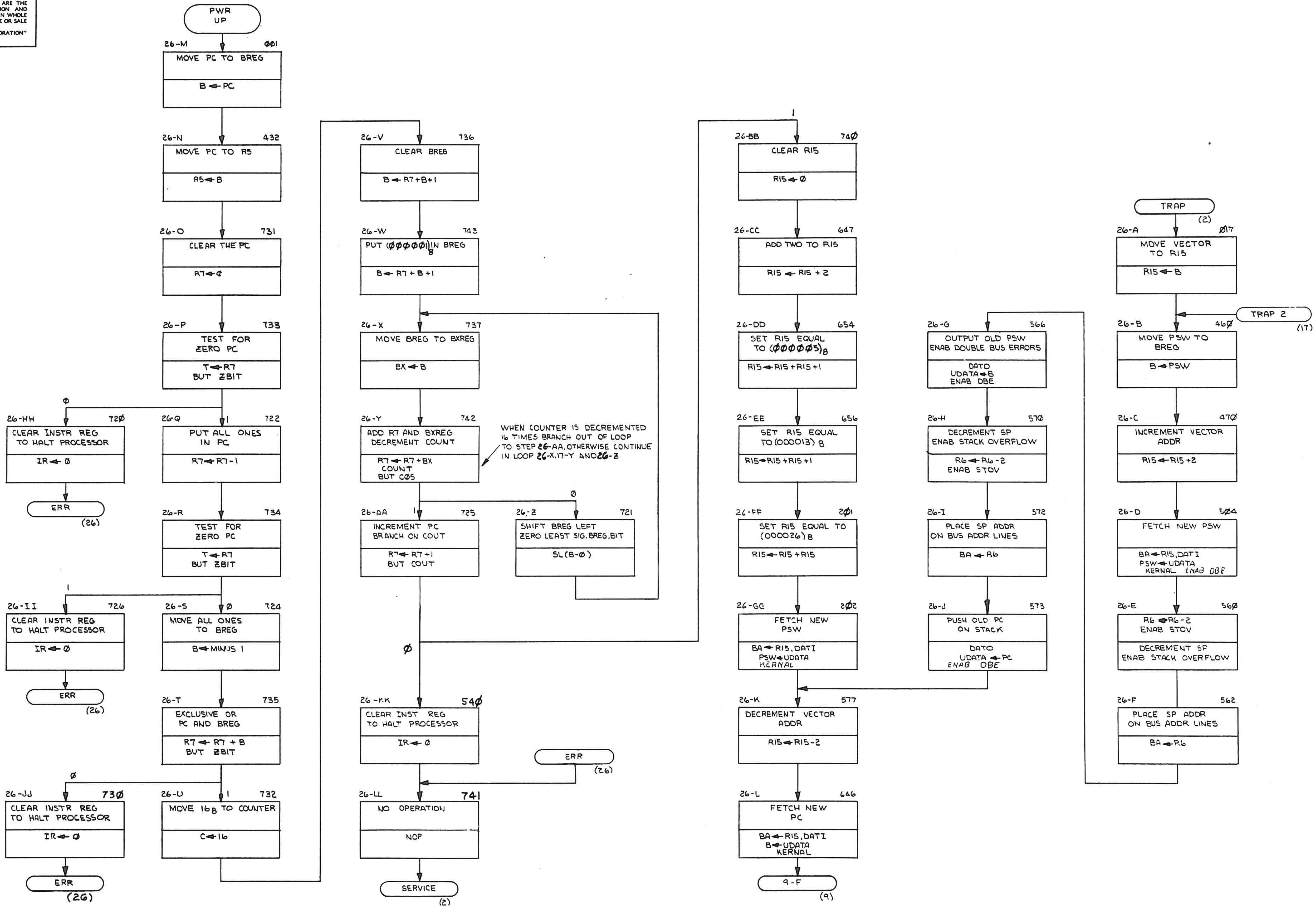

SHIFT LEFT
(23)
25-A 430
TEST COUNTER FOR ZERONESS
B ← RS, COUNT
BUT C05
FETCH UPPER PART OF OPERAND
COUNTER ZERO - NO SHIFT
25-B 456
TEST IR9 TO DETERMINE ASH/ASHC
BX ← RSV I
BUT IR9
FETCH LOWER PART OF OPERAND
ASH
ASHC
25-C 500
CLEAR BX TO INDICATE CBIT = 0
BX ← 0
STORE ASH
(24)
25-M 501
NO OPERATION GO TO 25-N
NOP
COUNTER IS ZERO WHICH INDICATES CBIT = 0 WHEN ENTERING STORE ASHC
25-D 452
TEST IR9 TO DETERMINE ASH/ASHC
BX ← RSVI
BUT IR9
FETCH LOWER PART OF OPERAND
ASHC 1
0 ASH
25-H 652
ZERO BX SO THAT ZERO'S SHIFT INTO B
BX ← 0
0
25-E 653
SHIFT DOUBLE OPERAND LEFT-DECREMENT COUNTER
R17 ← B, SL(B-BX-0), COUNT
BUT C05
AFTER LEAVING THIS LOOP THE COUNTER WILL BE ZERO AND R17 BIT 15 CONTAINS THE CARRY OUT OF THE LAST SHIFT
0
25-I 753
SHIFT SINGLE OPERAND LEFT-DECREMENT COUNTER
R17 ← B, SL(B-BX-0) COUNT
BUT C05
25-F 1 657
TEST R17 TO DETERMINE CBIT
T ← R17
BUT CCN
25-J 1 757
TEST R17 TO DETERMINE CBIT
T ← R17
BUT CCN
25-G 1 751
SET COUNTER TO INDICATE CBIT = 1
COUNT
25-K 0 655
CLEAR BX TO INDICATE CBIT = 0
BX ← 0
25-L 1 755
SET BX TO INDICATE CBIT = 1
BX ← MINUS 1
25-N 651
STORE UPPER RESULT TEST SIGN BIT
RS ← B
BUT CCN, CCZ
STORE ASHC
(24)
STORE ASH
(24)

REVISIONS

CHK	CHANGE NO.	REV.

DEC FORM NO. DRD 123

TITLE KD11EA FLOW DIAGRAMS	SIZE D	CODE FD	NUMBER KD11-EA-1	REV.
SCALE	SHEET 25 OF 26	DIST.		



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KD11-EA FLOW DIAGRAMS
SCALE
SHEET 26 OF 26

SIZE	CODE	NUMBER	REV.
D	FD	KD11-EA-1	

DIST.

DEC FORM NO.
DRD 138

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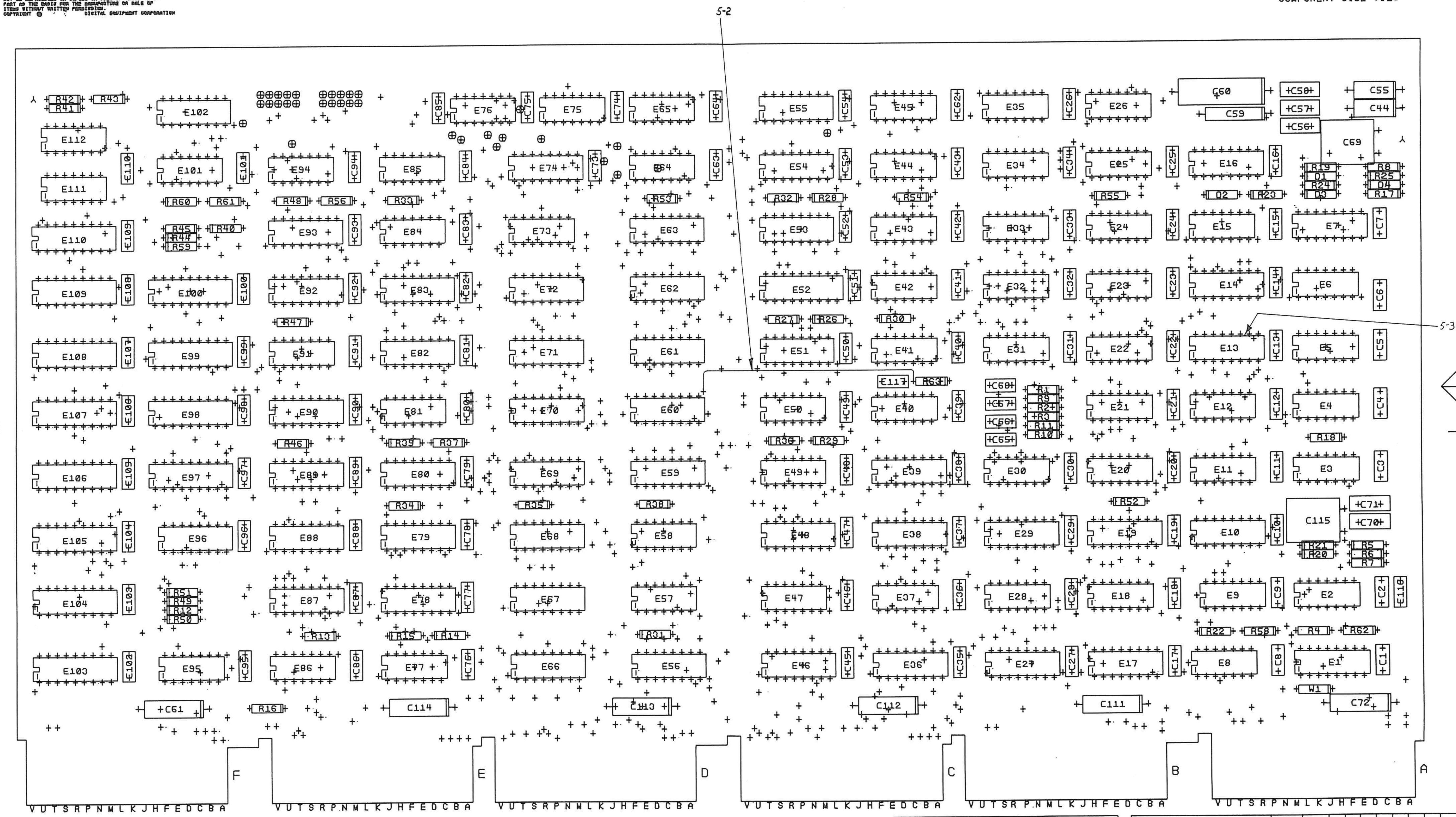
COMPONENT SIDE VIEW



NOTES:

CHK	CHANGE NO	REV
	M8266-5	D
	REVISED & REDRAWN	
	M. SULLIVAN	

ETCH REV. B
P.C. DESIGN DATA BASE REV. C

SIGNATURES	DATE
DRN. L GIAMMARINO	8-18-77
CHK'D. L GIAMMARINO	8-18-77
ENG. M SULLIVAN	19DEC77
PROJ. ENG. D BARRY	19DEC77
PROD. D BARRY	19DEC77

SCALE 2-1
SHT. 1 OF 4
NEXT HIGHER ASSY. B-DD-M8266-0

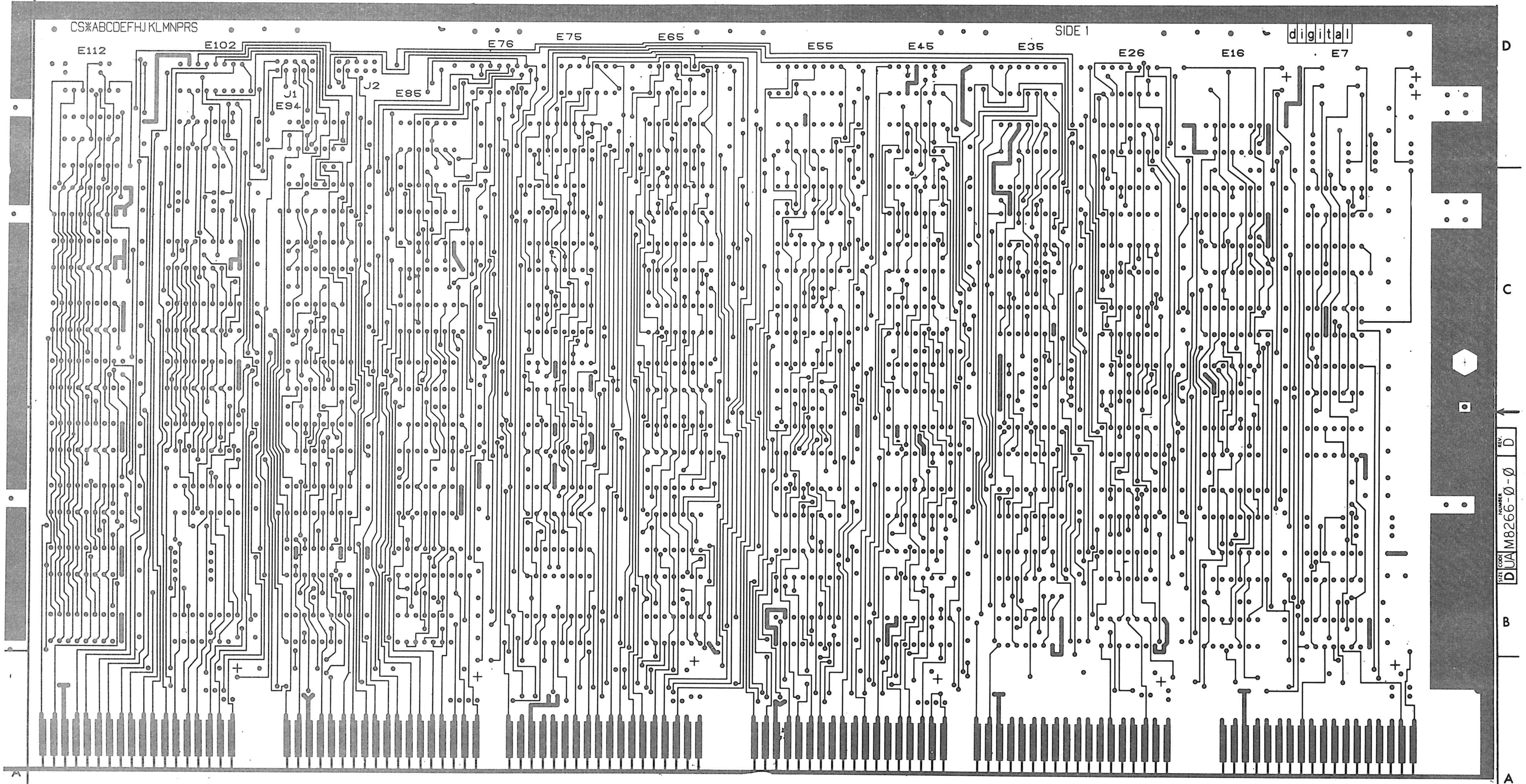
digital

TITLE
KD11E A CONTROL

SIZE	CODE	NUMBER	REV
D	UA	M8266-0-0	D.

MS# 116,441

LAYER 1



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE	CODE	NUMBER	REV.
KD11E-A CONTROL		D	UA	M8266-0-0	D
SCALE 2-1	SHEET 2 OF 4	DIST.			

DEC FORM NO DRD 137

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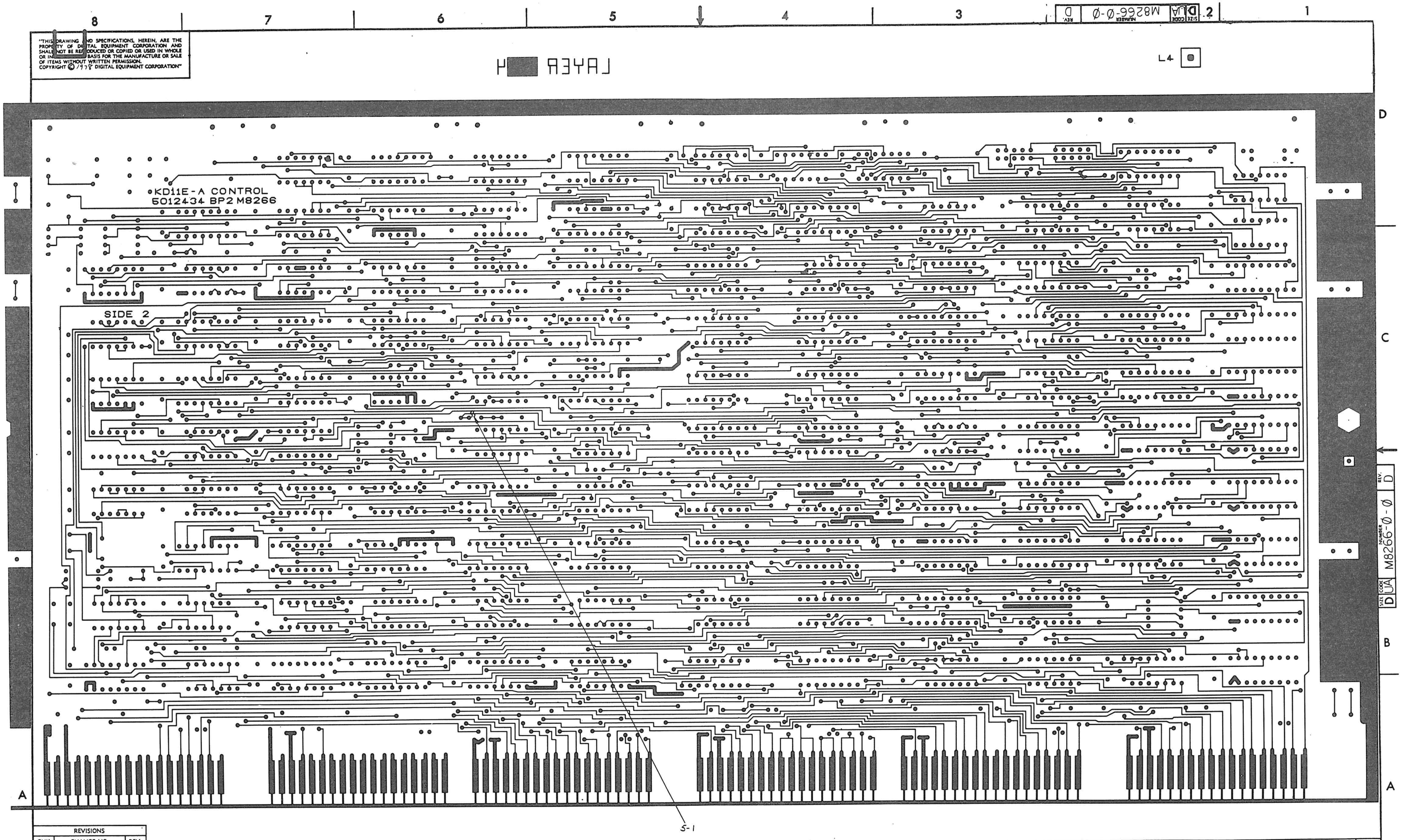

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
KD11E-A CONTROL	D	UA	M8266-0-0	D
SCALE 2-1	SHEET 3 OF 4	DIST.		

DEC FORM NO DRD 137

REWORK INSTRUCTIONS

ECO # 5

ETCH CUTS SIDE 2:

5-1. THE SLANTED ETCH RUN ABOVE AND TO THE LEFT OF E40-14

WIRE ADDS SIDE 1:

5-2. FROM R63 AT C117 END TO PTH LOCATED ABOVE E60-9

5-3. REMOVE E13 (P/N 1910651) AND REPLACE WITH E13 (P/N 1910957)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
KD11E-A CONTROL	D	UA	M8266-0-0	D
SCALE —/— SHEET 4 OF 4	DIST.			

```
AUTOMATED BY  PRTLST 1D(11)                    PARTS LIST                                       SHEET    1 OF   3

LINE ITEM  DOCUMENT NO.                   PART NO.      DESCRIPTION                                QTY  REFERENCE DESIGNATORS

  1    1  D-MD-5012434-0-0                5012434-00   M8266                                        1
  2    2                                  1000016-00    100.0 MMF 100V  5%200PPM DM15S     (10-00   3  C58,C67,C68
  3    3                                  1000024-00    470.0 MMF 100V  5%200PPM DM15S     (10-00   6  C56,C57,C65,C66,C71,C116
  4    4                                  1000055-00   2200. MMF 250V 20%  Y5S  DISC $              2  C69,C115
  5    5                                  1001476-00    10  MFD   35V10%  150D  S.TA       (10-00   1  C60
  6    6                                  1001610-01   .01   MFD  100V OR 50V Z5U DISC/800PF MIN   93  C1-C43,C45-C54,C63,C64,
                                                                                                CONT  C73-C110
  7    7                                  1004812-00     15  MFD   20V 10%  150D S.TA      (10-00   1  C59
  8    8                                  1005306-00      6.8MFD   35V 10%  150D S.TA      (10-00   6  C72,C111-C114,C61
  9    9                                  1009964-00   .68   MFD   35V 10% 150D S.TA $              2  C44,C55
 10   10                                  1000021-00    220.0 MMF 100V  5%200PPM DM15S     (10-00   3  C62,C70,C117
 11   11                                  1100114-00     D 664   QS\75PCB PIV= 25V SP               4  D1-D4
 12   12                                  1300202-00    47       1/4W  5%            CC    (13-00   6  R3,R4,R7,R11,R21,R63
 13   13                                  1300250-00   150       1/4W  5%            CC    (13-00   5  R10,R17,R18,R52,R1
 14   14                                  1300271-00   220       1/4W  5%            CC    (13-00   1  R62
 15   15                                  1300309-00   390       1/4W  5%            CC    (13-00  12  R40-R48,R60,R54,R61
 16   16                                  1300316-00   470       1/4W  5%            CC    (13-00  20  R26-R31,R33-R39,R49-R51,R53,
                                                                                                CONT  R56,R55,R9
 17   17                                  1300365-00     1     K 1/4W  5%            CC    (13-00   5  R12,R32,R20,R59,R58
 18   18                                  1300479-00    10     K 1/4W  5%            CC    (13-00   1  R24
 19   19                                  1302394-00    30     K 1/4W  5%            CC    (13-00   5  R8,R19,R23,R25,R5
 20   20                                  1311422-00   178       1/4W  1% RN55D-F 100PPM   (13-00   5  R13-R16,R22
 21   21                                  1301401-00   750       1/4W  5%            CC    (13-00   1  R6
 22   22                                  1213506-00   HEADER     24POS RT ANGLE W/3 SIDED HOOD     2  J1,J2
 23   23                                  1905547-00   DEC    7474  FF-D DUAL,EDGE TRIGGER,15MHZ    5  E5,E12,E31,E32,E34
 24   24                                  1905575-00          7400  NAND GATE-QUAD 2IN              5  E3,E15,E18,E28,E86
 25   25                                  1905587-00   DEC    7473  FF-JK DUAL,MASTER SLAVE,10MHZ   2  E24,E45
 26   26                                  1909004-00   DEC    7402  NOR GATE-QUAD 2IN               3  E22,E23,E43
 27   27                                  1909705-00   DEC    8881-INAND GATE-QUAD 2IN,OPN COLL.    2  E8,E77
 28   28                                  1909713-00   DEC    8815  NOR GATE-DUAL 4IN          14   2  E4,E30
---------------------------------------------------------------------------------------------------------------------
!  REVISION HISTORY  !VARIATIONS FOR THIS ASSY.!                                   !                                    !
!____________________!_________________________!FIRST USED ON:                     !  DIGITAL EQUIPMENT CORPORATION     !
! CHK ! ECO NO ! REV !                         !___________________________________!      MAYNARD, MASSACHUSETTS        !
!_____!________!_____! 00                      !                 !                 !____________________________________!
! PG  ! 00005  ! D   !                         !MADE BY:  R.BARILONE   !DATE: 24-MAR-78 !TITLE                          !
!     !        !     !                         !_________________!_________________!              PARTS LIST            !
!     !        !     !                         !                 !                 !                                    !
!     !        !     !                         !CHECKED:  L.GIAMMARINO !DATE: 24-MAR-78 !  KD11E-A CONTROL              !
!     !        !     !                         !_________________!_________________!                                    !
!     !        !     !                         !                 !                 !                                    !
!     !        !     !                         !DSN.ENG.:  M.SULLIVAN  !DATE: 24-MAR-78 !___________________________________!
!     !        !     !                         !_________________!_________________!SIZE!CODE!  DOCUMENT NUMBER   ! REV !
!     !        !     !                         !                 !                 !    !    !                    !     !
!     !        !     !                         !PROD.:     B.KING      !DATE: 24-MAR-78 ! K  ! PL !  M8266-0-DBP  !D    !
!     !        !     !                         !_________________!_________________!____!____!____________________!_____!
!     !        !     !                         !                 !                 !                          !EDIT#!
!     !        !     !                         !RESP.ENG.: M.SULLAVAN  !DATE: 24-MAR-78 !ASSY.NO.: D-UA-M8266-0-0  !  5  !
!____________________!_________________________!_________________!_________________!__________________________!_____!
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!                               COPYRIGHT     1978, DIGITAL EQUIPMENT CORPORATION "                                         !
!___________________________________________________________________________________________________________________________!
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LINE ITEM  DOCUMENT NO.                PART NO.        DESCRIPTION                                QTY  REFERENCE DESIGNATORS

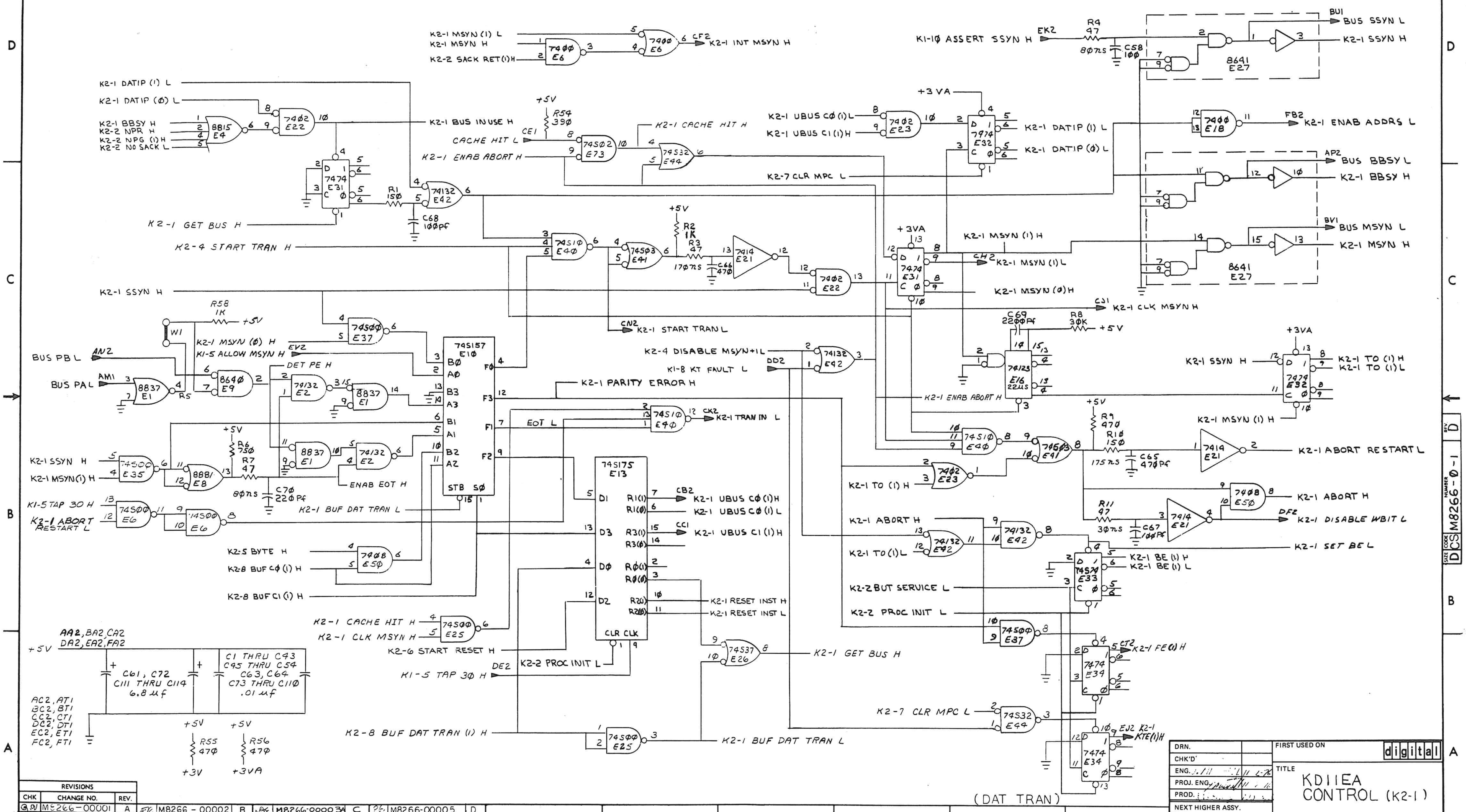
  29   29                              1910533-00           74S03  NAND GATE-QUAD 2IN,OPN COLLECT    5  E41,E64,E65,E76,E94
  30   30                              1909930-00            7405  INVERTER GATE-HEX 1IN,OPEN COL    2  E91,E101
  31   31                              1910018-00      DEC  74193  COUNTER,SYNCHR. UP/DOWN           2  E78,E79
  32   32                              1911675-00          74S138  DECODER-THREE INPUT               1  E89
  33   33                              1910091-00      DEC   7437  NAND GATE-QUAD 2IN,BUFFER  14     1  E81
  34   34                              1910155-00      DEC   7408  AND GATE,POS.QUAD 2IN      14     2  E11,E50
  35   35                              1910436-00      DEC  74123  ONE SHOT-DUAL,RETRIGGERABLE       3  E16,E7,E14
  36   36                              1910532-00           74S00  NAND GATE-QUAD 2IN                6  E25,E37,E47,E84,E6,E35
  37   37                              1910534-00           74S04  INVERTER GATE-HEX 1IN             2  E111,E112
  38   38                              1910539-00           74S20  NAND GATE-DUAL 4INPUT             2  E57,E58
  39   39                              1910547-00          74S153  MUX  1 OF  4 (DUAL)               2  E46,E36
  40   40                              1910548-00          74S157  MUX  1 OF  2 (QUAD)               2  E10,E39
  41   41                              1910550-00          74S174  FF-D HEX                         10  E19,E38,E66,E93,E71,E88,E90,
                                                                                                CONT  E92,E96,E56
  42   42                              1910651-00      ********  THIS ITEM IS NOT USED  *********    0
  43   43                              1910878-00            7427  NOR GATE-TRIPLE 3IN               1  E75
  44   44                              1910957-00          74S175  FF-D QUAD COMMON CLOCK            4  E48,E55,E67,E13
  45   45                              1911116-00      DEC   8837   RECEIVER,BUS,HEX,UNIBUS          2  E1,E17
  46   46                              1911324-00            7414  NAND GATE-HEX 1IN SCHMITT TRIG    1  E21
  47   47                              1911469-00      DEC   8640   RECEIVER,BUS,QUAD,UNIBUS,Q-BU    1  E9
  48   48                              1911579-00            8641   TRANSCEIVER,BUS,QUAD,UNIBUS      1  E27
  49   49                              1911637-00           74132  NAND GATE-QUAD 2 IN SCHMITT TR    2  E2,E42
  50   50                              1912388-00           74S02  NOR GATE-QUAD 2IN,POS             3  E20,E73,E95
  51   51                              1912746-00      DEC  74S37  NAND GATE-QUAD 2IN                1  E26
  52   52                              1910544-00           74S74  FF-D DUAL,EDGE TRIGGER            2  E33,E49
  53   53                              1910536-00           74S10  NAND GATE-TRIPLE 3IN              2  E40,E85
  54   54                              1913340-00      74S32 OR GATE QUAD 2IN                        1  E44
  55   55                              23106A1-00      A1-07                               PROM,     1  E51
  56   56                              23160A2-00      A2-05                           $             1  E29
  57   57                              23175A2-00      A2-02,A2-03,A2-04               $             1  E53
  58   58                              23162A2-00      A2-05                                         1  E54
  59   59                              23174A2-00      A2-02,A2-03,A2-04                             1  E59
  60   60                              23173A2-00      A2-02,A2-03,A2-04                             1  E60
  61   61                              23161A2-00      A2-05                                         1  E61
  62   62                              23170A2-00      A2-02,A2-03,A2-04                             1  E62
  63   63                              23176A2-00      A2-02,A2-03,A2-04                             1  E63
  64   64                              23014A9-00      A9-01                                         1  E68
  65   65                              23172A2-00      A2-02,A2-03,A2-04                             1  E69
  66   66                              23349A9-00      A9-04                                         1  E70
  67   67                              23A22A2-00      A2-02,A2-03                                   1  E72
  68   68                              23110A1-00      A1-03,A1-05                         PROM,     1  E74
  69   69                              23163A2-00      A2-05                           $             1  E80
  70   70                              23108A1-00      A1-07                               PROm,     1  E82
  71   71                              23107A1-00      A1-07                               PROM,     1  E83
  72   72                              23109A1-00      A1-07                               PROM,     1  E87
  73   73                              23022F1-00      F1-01                           $             1  E97
  74   74                              23023F1-00      F1-01                           $             1  E98
  75   75                              23021F1-00      F1-01                           $             1  E99
-------------------------------------------------------------------------------------------------------------------------------------
!                               !TITLE                PARTS LIST                        !SIZE!CODE!   DOCUMENT NUMBER    ! REV !
! DIGITAL EQUIPMENT CORPORATION !              KD11E-A CONTROL                          !    !    !                      !     !
!    MAYNARD, MASSACHUSETTS     !                                                       ! K  ! PL !   M8266-0-DBP        !D    !
!_______________________________!_______________________________________________________!____!____!______________________!_____!
```

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
76	76		23024F1-00	F1-01 $	1	E100
77	77		23011F1-00	F1-01 $	1	E103
78	78		23025F1-00	F1-01 $	1	E104
79	79		23027F1-00	F1-01 $	1	E105
80	80		23020F1-00	F1-01 $	1	E106
81	81		23019F1-00	F1-01 $	1	E107
82	82		23018F1-00	F1-01 $	1	E108
83	83		23017F1-00	F1-01 $	1	E109
84	84		23016F1-00	F1-01 $	1	E110
85	85		23177A1-00	A1-07 FROM,	1	E102
86	86		23013F1-00	F1-01 $	1	E52
87	87		9009185-00	JUMPER, WIRE, INSULATED, BLACK BAND	1	W1
88	88		9006732-00	EYELET, ROLLED FLANGE, .121 OD X .219 LG	12	
89	89		7417214-00	MODULE HANDLE REWORK	1	
90	90		1303114-00	1.0 K 1/4W 1% RN55D-F 100PPM (13-00	1	R2
91	91		9105740-55	WIRE(WRAP)30AWG UL1423 (91-00	A/R	
92	92		9009157-00	ADHESIVE, PERMABOND #101 $	A/R	

93 NOTE: 1001610-01 MAY BE SUBSTITUED BY 1001610-00.

	TITLE	SIZE	CODE	DOCUMENT NUMBER	REV
DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	PARTS LIST KD11E-A CONTROL	K	PL	M8266-0-DBP	D

D | CS | M8266-0-1 | D



(DAT TRAN)

REVISIONS		
CHK	CHANGE NO.	REV.
G.W	M8266-00001	A
	3-MAR-77	
	R. BARRY	
	Richard Barry 9-MAR-77	

	CHANGE NO.	REV.
	M8266 - 00002	B
	[illegible]	
	R. BARRY	
	Richard Barry 4-MAY77	

	CHANGE NO.	REV.
	M8266-00003A	C
	Burt G. Hunt 23 AUG 77	
	B. CRAMM	
	B Cramm	

	CHANGE NO.	REV.
P.G.	M8266-00005	D
	P Grosse 23MAR78	
	M. SULLIVAN	
	M Sullivan 13APR78	

DEC FORM NO.
DRD 138

DRN.	
CHK'D	
ENG.	[illegible]
PROJ. ENG.	[illegible]
PROD.	[illegible]
NEXT HIGHER ASSY.	
SCALE	---
SHEET 1	OF 10

FIRST USED ON

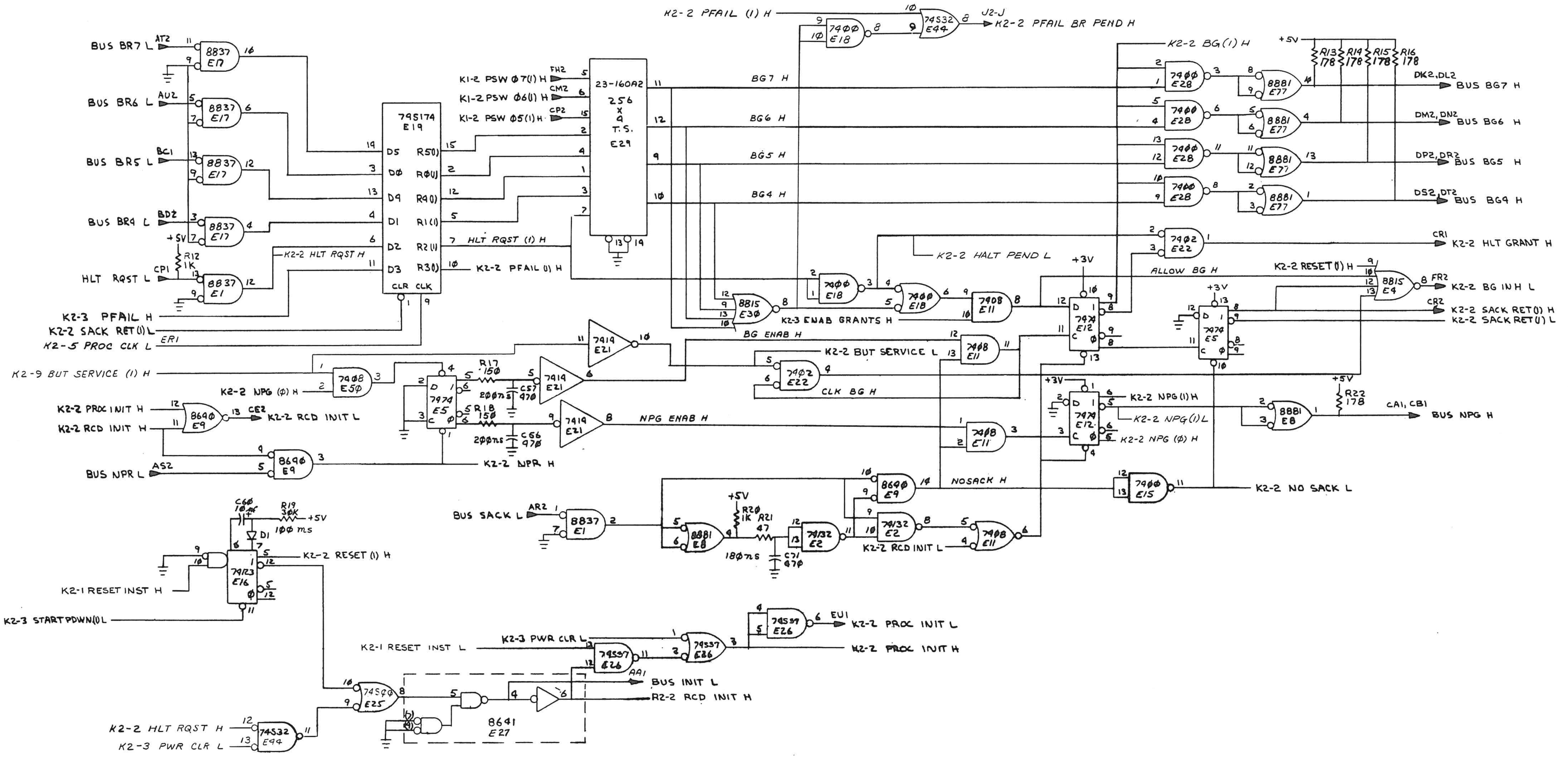
digital

TITLE
KD11EA
CONTROL (K2-1)

SIZE	CODE	NUMBER	REV.
D	CS	M8266-0-1	D

DIST.

D | CS | M8266-0-1 | D

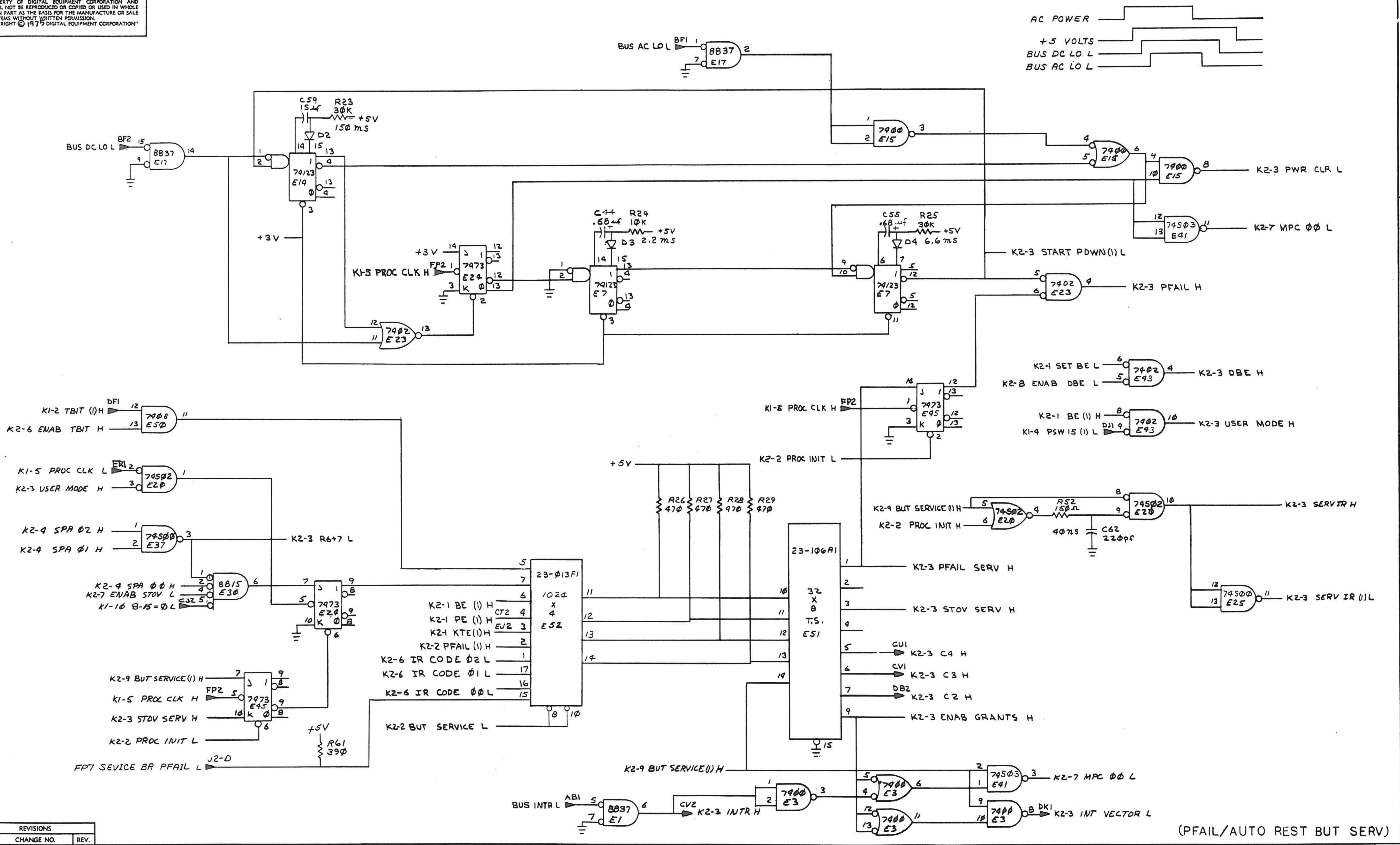


(PRIORIDY ARB)

CHK	REVISIONS CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
KD11EA CONTROL (K2-2)	D	CS	M8266-0-1	D
SCALE —	SHEET 2 OF 10		DIST.	

DEC FORM NO. DRD 138

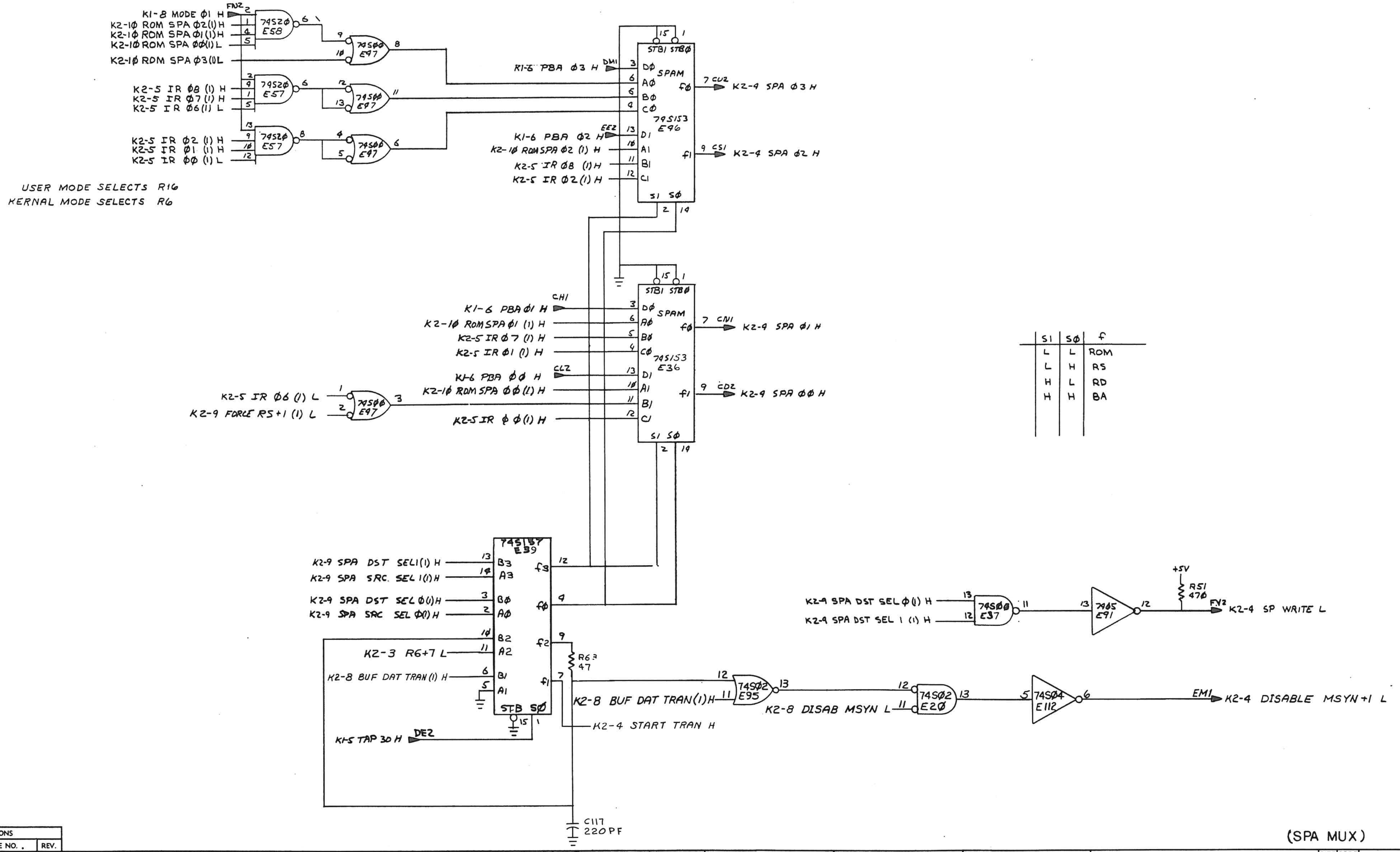


(PFAIL/AUTO REST BUT SERV)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE KD11EA CONTROL (K2-3)
SIZE D
CODE CS
NUMBER M8266-0-1
REV. D
SCALE —//—
SHEET 3 OF 10
DIST.

EC FORM NO. D 133



S1	S0	f
L	L	ROM
L	H	RS
H	L	RD
H	H	BA

(SPA MUX)

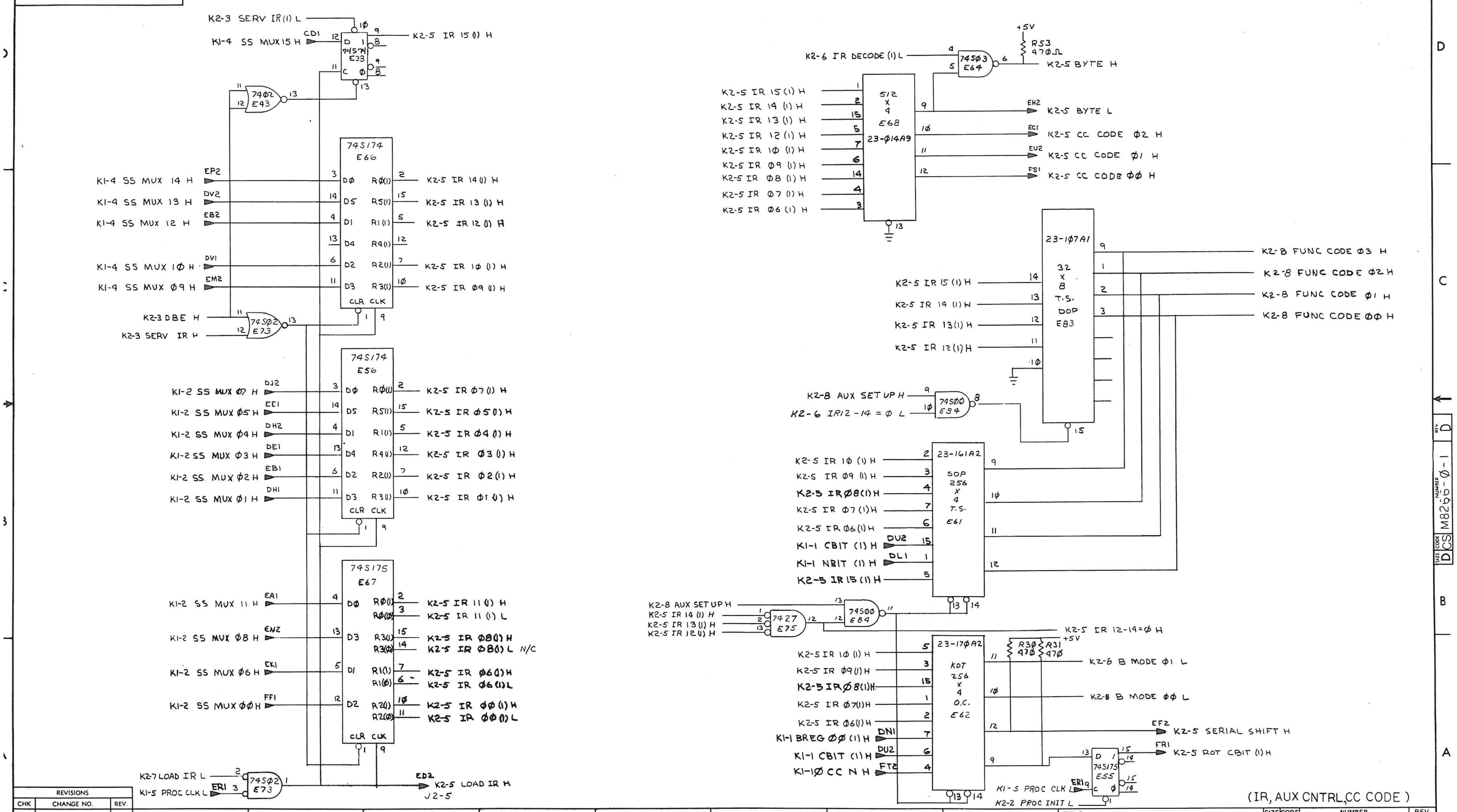
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KD11EA CONTROL (K2-4)

SIZE	CODE	NUMBER	REV.
D	CS	M8266-0-1	D

SCALE —//— SHEET 4 OF 10
DIST.

DEC FORM NO.
D-DO 133



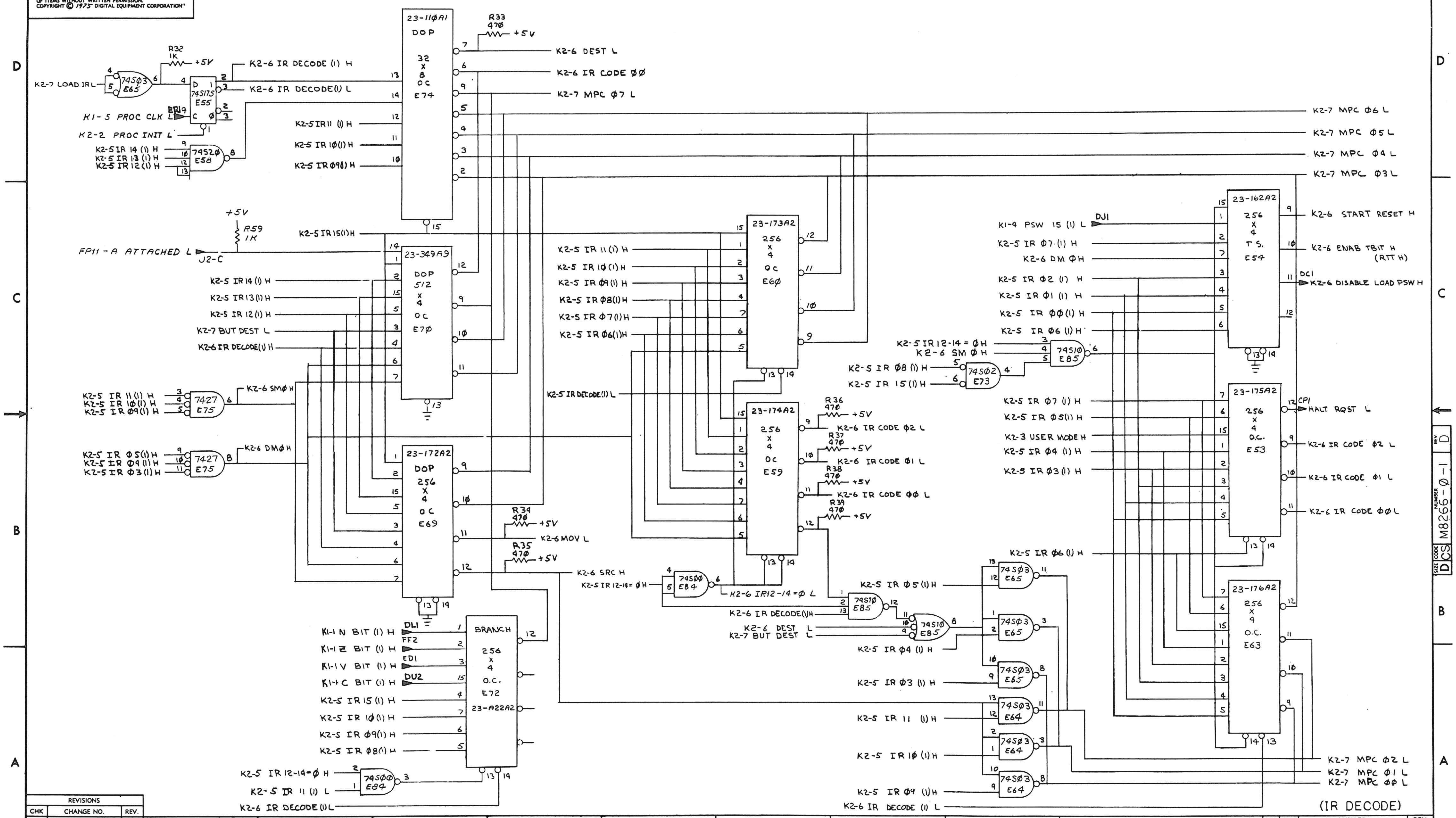
(IR, AUX CNTRL,CC CODE)

REVISIONS			
CHK	CHANGE NO.	REV.	

TITLE
KD11EA CONTROL (K2-5)
SCALE —/— SHEET 5 OF 10

SIZE D CODE CS NUMBER M8266-0-1 REV. D
DIST.

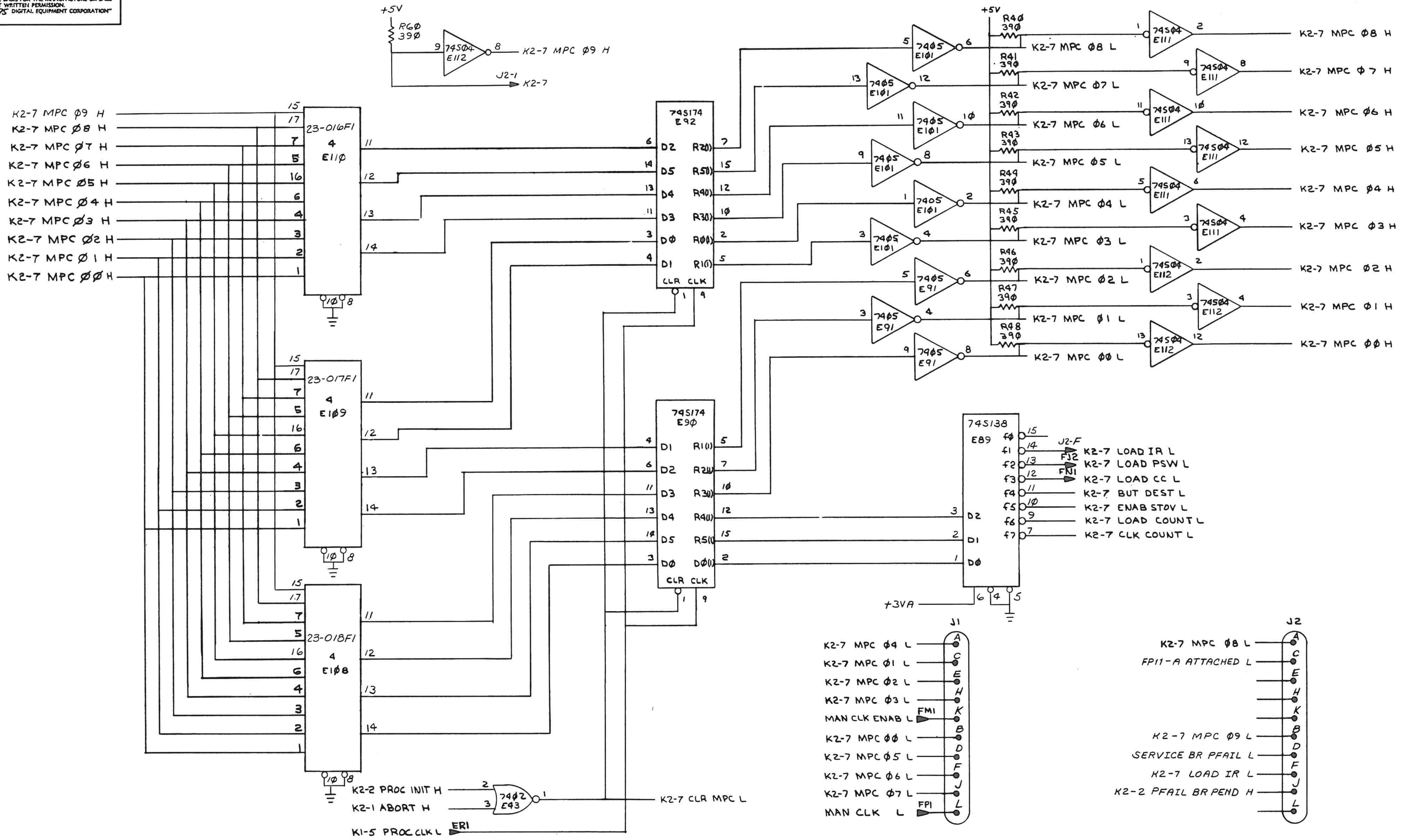
DEC FORM NO. DRD 138



TITLE	SIZE	CODE	NUMBER	REV.
KDIIFA CONTROL (K2-6)	D	CS	M8266-0-1	D
SCALE —//— SHEET 6 OF 10	DIST.			

REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO.
DRD 138



(MPC BUT FIELD)

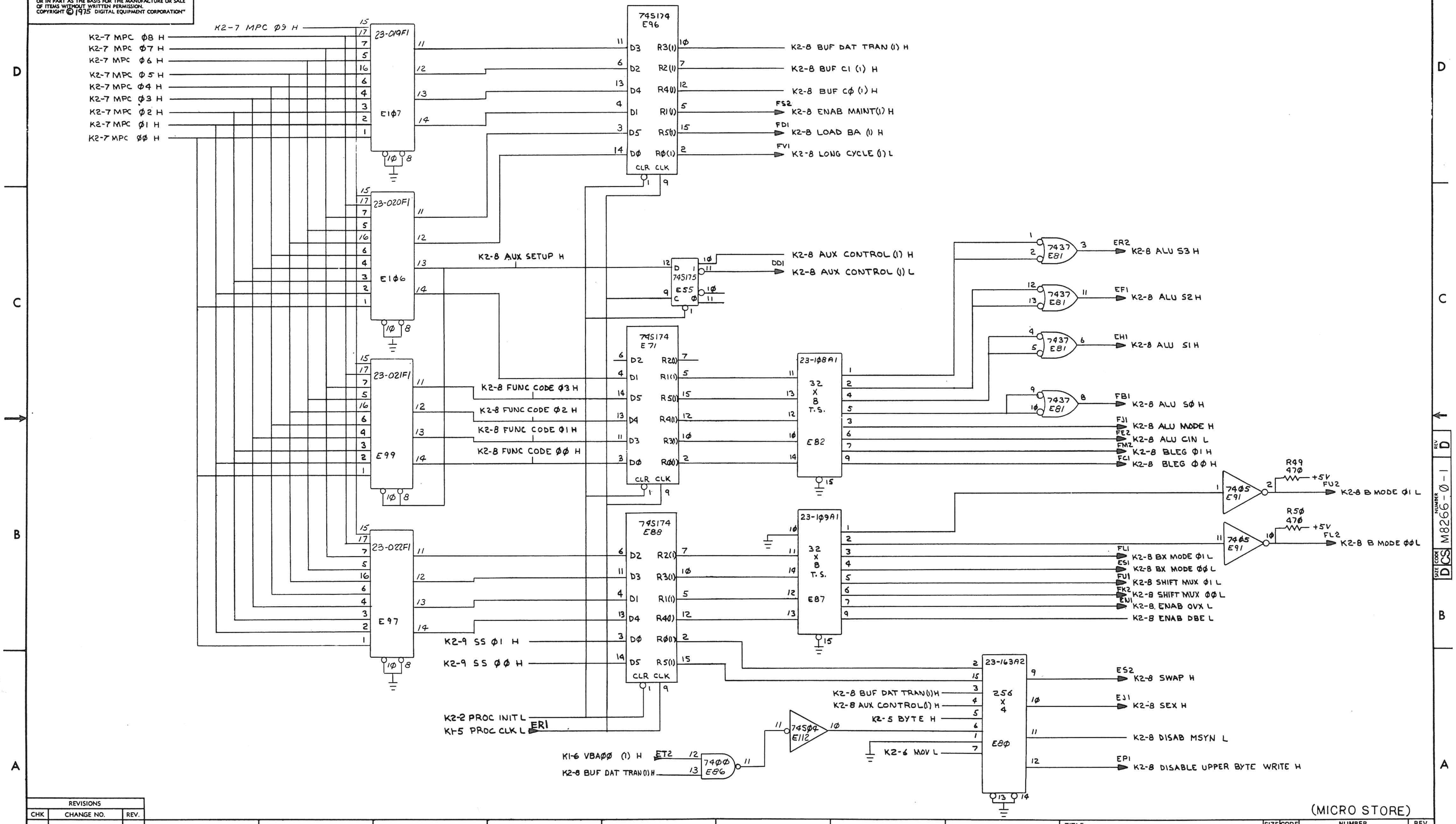
REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO.
DRD 138

TITLE KD11EA CONTROL (K2-7)

SIZE	CODE	NUMBER	REV.
D	CS	M8266-0-1	D

SCALE — SHEET 7 OF 10
DIST.



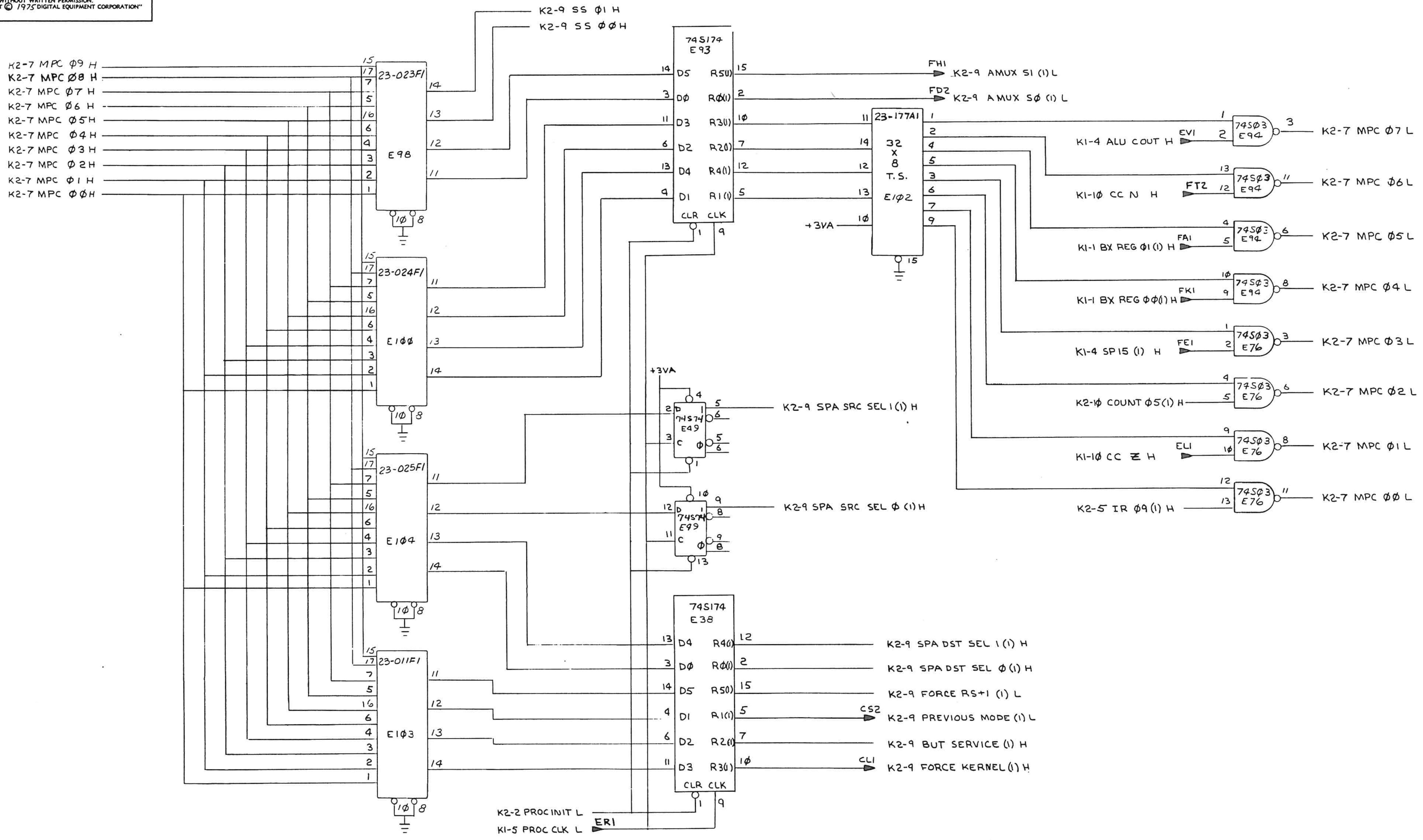
(MICRO STORE)

TITLE	SIZE	CODE	NUMBER	REV.
KD11EA CONTROL (K2-8)	D	CS	M8266-0-1	D
SCALE —	SHEET 8 OF 10		DIST.	

REVISIONS

CHK	CHANGE NO.	REV.

DEC FORM NO.
DRD 138

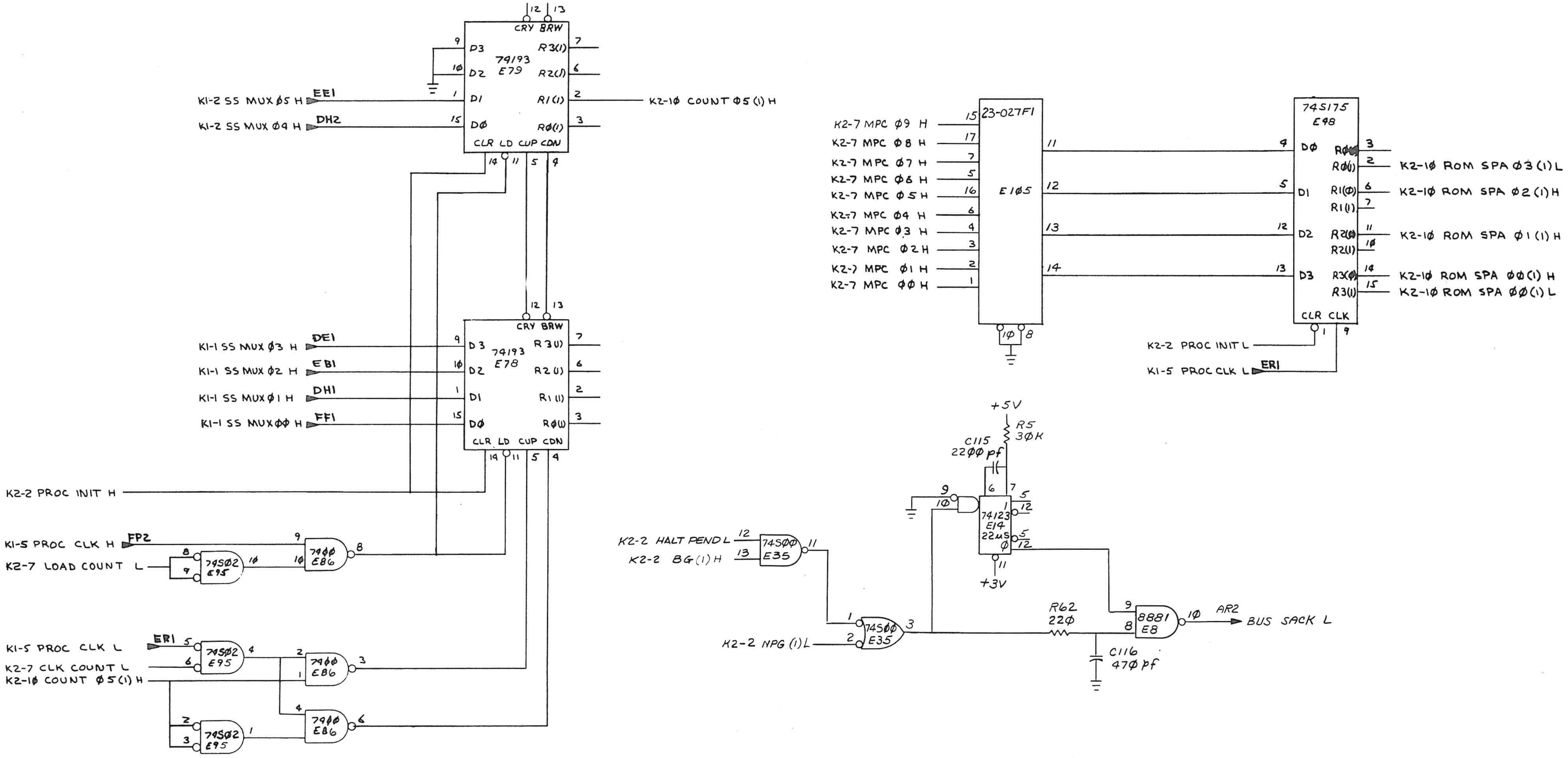


(MICRO CODE)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KD11EA CONTROL (K2-9)
SIZE D CODE CS NUMBER M8266-0-1 REV. D
SCALE —//— SHEET 9 OF 10
DIST.

DEC FORM NO.
DRD 138



(ROM SPA COUNTER)

TITLE	SIZE	CODE	NUMBER	REV.
KD11-EA CONTROL (K2-10)	D	CS	M8266-0-1	D
SCALE — SHEET 10 OF 10	DIST.			

REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO.

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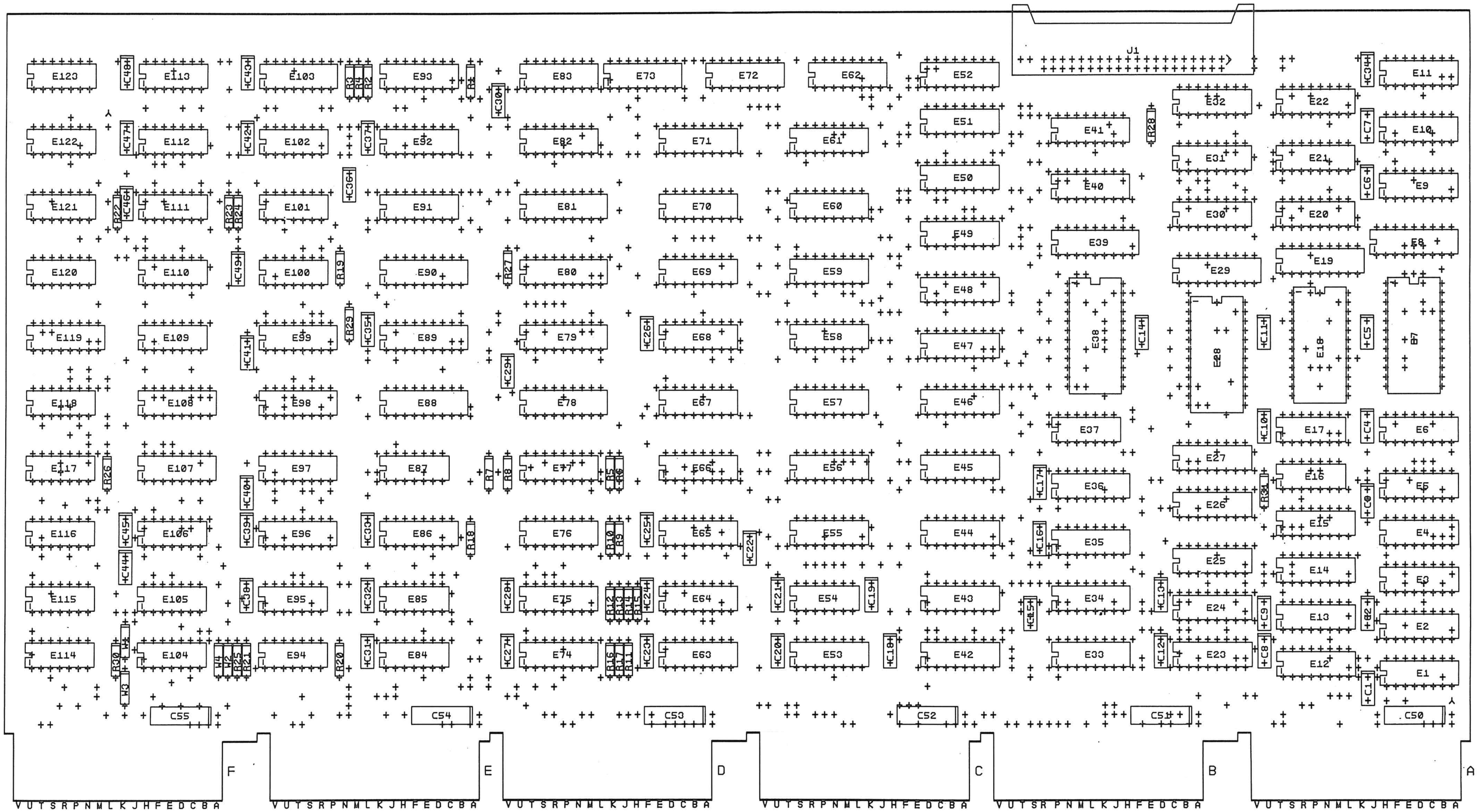
COMPONENT SIDE VIEW



NOTES:

CHK	CHANGE NO	REV
	Burt C. Hust	7-20-77
	M. SULLIVAN	
	M. Sullivan	7-20-77
	00002	B

ETCH REV. B-P1
P.C. DESIGN DATA BASE REV.

SIGNATURES		DATE
DRN.	D. BILODEAU	9-8-76
CHK'D.		4-11-77
ENG.	M. Sullivan	7-15-77
PROJ.ENG.	M. Sullivan	7-15-77
PROD.	RB King	15.5.77
SCALE	2/1	
SHT.	1 OF 3	

NEXT HIGHER ASSY. B DD M8265-0-0

digital

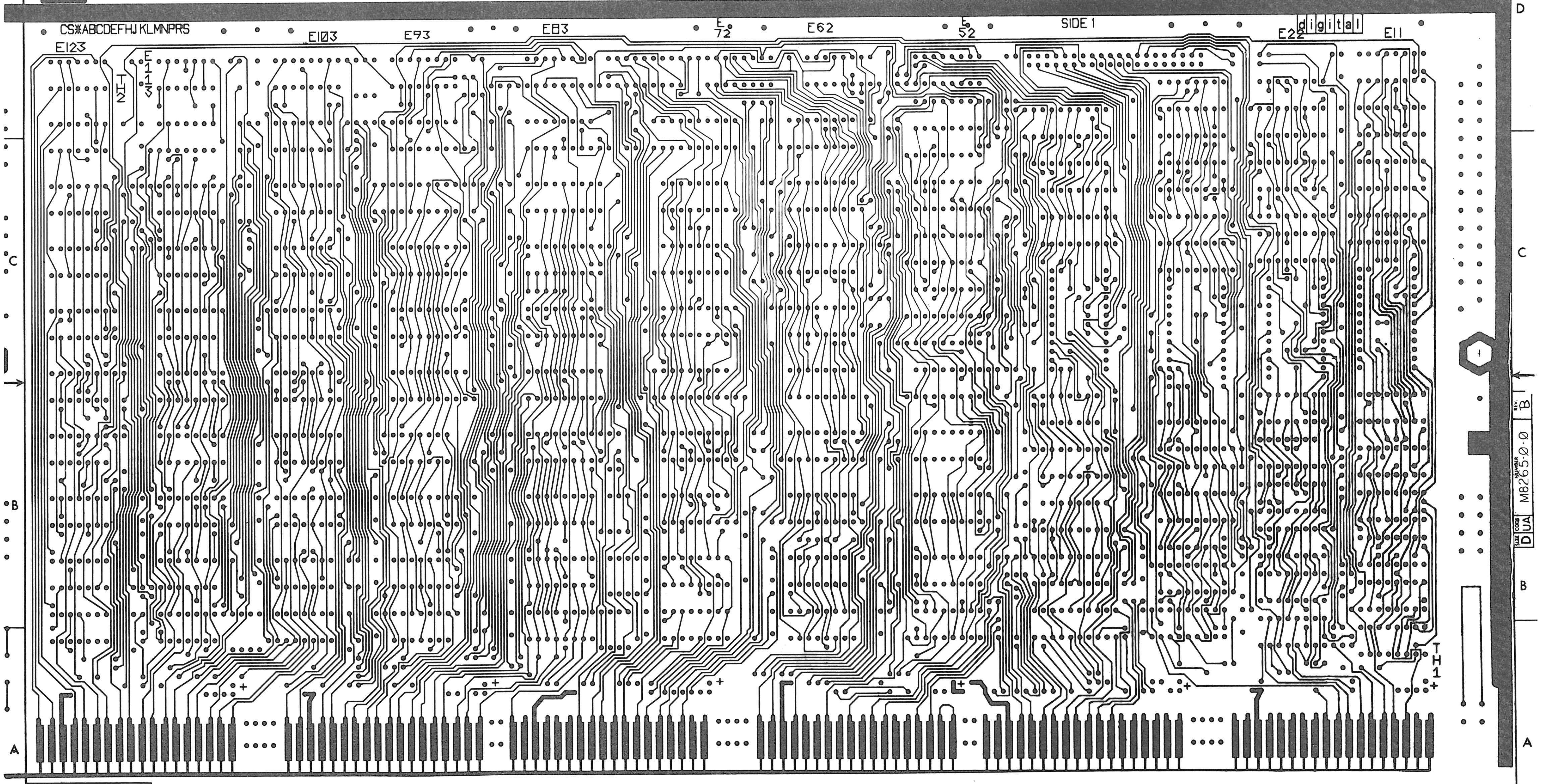
TITLE KD11-EA
DATA PATH

SIZE	CODE	NUMBER	REV
D	UA	M8265-0-0	B

1 MS# 116400

D UA M8265-0-0 B

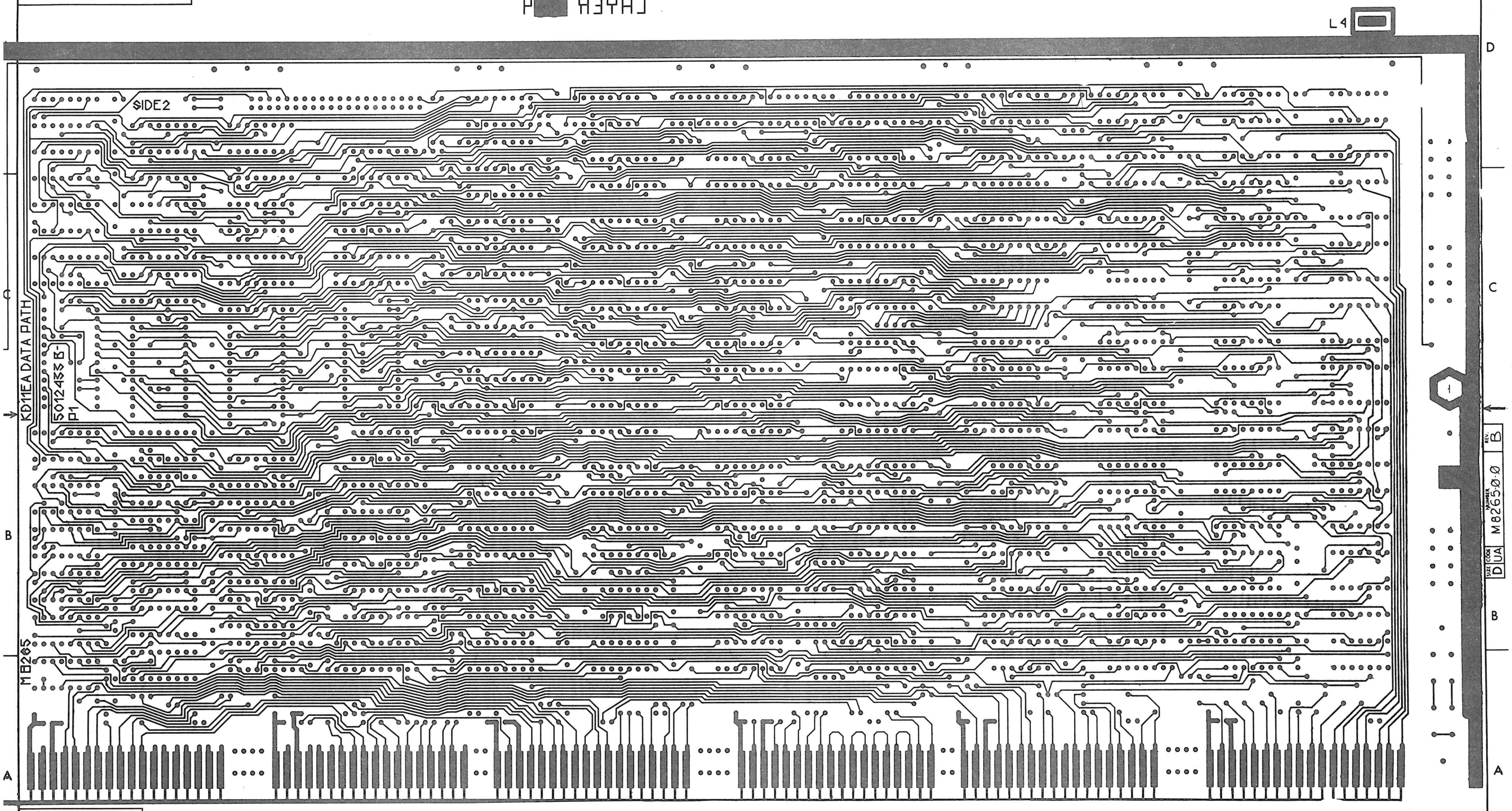
LAYER 1



REVISIONS		
CHK	CHANGE NO	REV.

TITLE KD11-EA DATA PATH	SIZE D	CODE UA	NUMBER M8265-0-0	REV. B
SCALE 2/1	SHEET 2 OF 3	DIST.		

DEC FORM NO DPD 137



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
KD11-EA DATA PATH	D	UA	M8265-0-0	B
SCALE 2/1	SHEET 3 OF 3	DIST.		

DEC FORM NO
DRD 157

DIGITAL EQUIPMENT CORPORATION
PARTS LIST

MADE BY	F. GAROFALO	CHECKED	RON FONTAINE	SECTION
DATE	7 SEPT 76	DATE	7 SEPT 76	
ENG		PROD	R. B. KING	ISSUED SECTION
DATE	7-18-77	DATE	15-Jul-77	

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION M8265-0-0	REF DESIGNATION
1	D-~~MD~~-5012433-0-0	5012433	ETCHED BOARD	1	
2		1001610-00	CAPACITOR, .01 uf, 50V, 20% CER	48	C1 thru C48
3		1005306	CAPACITOR, 6.8 uf, 35V, 10%	6	C50 thru C55
4		1000021	CAPACITOR, 220 pf, 100V, 5%	1	C49
5		1300316	RESISTOR, 470 OHM, 1/4W, 5% CC	19	R1 thru R19
6		1300365	RESISTOR, 1K, 1/4W, 5% CC	8	R20 thru R23,R26 thru R29
7		1300202	RESISTOR, 47 OHM, 1/4W, 5% CC	1	R24
8		1300271	RESISTOR, 220 OHM, 1/4W, 5% CC	2	R25,R30
9		1300309	RESISTOR, 390 OHM 1/4W, 5% CC	1	R31
10		1210711-09	HANDLE, HEX MODULE	1	
11		1213506-01	RIGHT ANGLE HEADER	1	J1
12		1612463	DELAY LINE, 150 NS	1	E104
13		1911521	I.C. DEC 7432	1	E122
14		1905576	I.C. DEC 7410	1	E123
15		1909004	I.C. DEC 7402	3	E101,E102,E114
16		1909686	I.C. DEC 7404	1	E117
17		1910155	I.C. DEC 7408	1	E112
18		1905575	I.C. DEC 7400	1	E110
19		1911637	I.C. DEC 74132	1	E120
20		1905578	I.C. DEC 7430	2	E54 E87
21		1910091	I.C. DEC 7437	1	E116

E.C.O. NO.

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TITLE KD11E-A DATA PATH	ASSY NO. D-UA-M8265-0-0	SIZE B	CODE PL	NUMBER M8265-0-0	REV. B
	SHEET 1 OF 3	INSERTION PARTS LIST DATA BASE REV			

DIGITAL EQUIPMENT CORPORATION
PARTS LIST

MADE BY F. GAROFALO
DATE 7 SEPT 76
CHECKED RON FONTAINE
DATE 7 SEPT 76
SECTION
ENG
DATE 7-18-77
PROD R. B. KING
DATE 15 Jul 77
ISSUED SECTION
NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION M8265-0-0											REF DESIGNATION
22		1910544	I.C. DEC 74S74	2											E100,E109
23		1910224	I.C. DEC 7485	2											E61,E72
24		1910011	I.C. DEC 7486	1											E115
25		1911579	I.C. DEC 8641	9											E1.E12,E23,E42,E43,E53.E63 E64,E33
26		1909713	I.C. DEC 8815	2											E17,E37
27		1909937	I.C. DEC 74153	3											E6,E9,E119
28		1912389	I.C. DEC 74S08	1											E106
29		1910655	I.C. DEC 74157	5											E20,E30,E40,E92 E93
30		1910652	I.C. DEC 74174	4											E50,E51,E62,E73
31		1910651	I.C. DEC 74175	3											E82,E99,E103
32		1910623	I.C. DEC 74194	8											E10,E11,E21.E31,E22,E32,E41,E52
33		1909932-01	I.C. DEC 7483A	3											E45,E56,E66
34		1911271	I.C. DEC 74298	3											E44,E55,E65
35		1909849	I.C. DEC 74H01	1											E111
36		1910532	I.C. DEC 74S00	3											E95,E113,E118
37		1910534	I.C. DEC 74S04	2											E105,E16
38		1910547	I.C. DEC 74S153	4											E13,E14.E34,E35
39		1910548	I.C. DEC 74S157	7											E2,E24,E71,E91,E96,E98,E108
40		1910550	I.C. DEC 74S174	3											E47,E48,E49
41		1910531	I.C. DEC 74S181	4											E7,E18,E28,E38
42		1912097	I.C. DEC 74S182	1											E27

E.C.O. NO.

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TITLE KD11E-A DATA PATH
ASSY NO. D-UA-M8265-0-0
SHEET 2 OF 3
SIZE B
CODE PL
NUMBER M8265-0-0
REV. B
INSERTION PARTS LIST DATA BASE REV

DRB 125

DIGITAL EQUIPMENT CORPORATION
PARTS LIST

MADE BY	F. GAROFALO	CHECKED	RON FONTAINE	SECTION	
DATE	7 SEPT 76	DATE	7 SEPT 76		
ENG		PROD	R. B. KING	ISSUED SECTION	
DATE	7-18-77	DATE	15 Jul 77		

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION M8265-0-0												REF DESIGNATION
43		1912646	I.C. DEC 74LS253	8												E57 thru E60,E67 thru E70
44		1912586	I.C. DEC 85S68	11												E8,E19,E29,E39,E78 thru E81,E88,E89,E90
45		1910536	I.C. DEC 74S10	1												E94
46		1910957	I.C. DEC 74S175	1												E97
47		1910537	I.C. DEC 74S11	1												E121
48		23169A2	I.C. DEC 256 x 4 BIT ROM OC	2												E74,E75
49		23168A2	I.C. DEC 256 x 4 BIT ROM OC	1												E76
50		23167A2	I.C. DEC 256 x 4 BIT ROM OC	1												E77
51		23165A2	I.C. DEC 256 x 4 BIT ROM OC	1												E83
52		23166A2	I.C. DEC 256 x 4 BIT ROM OC	1												E86
53		23164A2	I.C. DEC 256 x 4 ROM TS	1												E107
54		1912746	I.C. DEC 74S37	2												E84,E85
55		1912660	I.C. DEC 74S253	8												E3,E4 E5 E15,E25,E26,E36.E46
56		9000024-01	EYELET (HANDLE)	11												
57		9009185	WIRE, JUMPER (INSULATED)	2												W1,W2,

E.C.O. NO.

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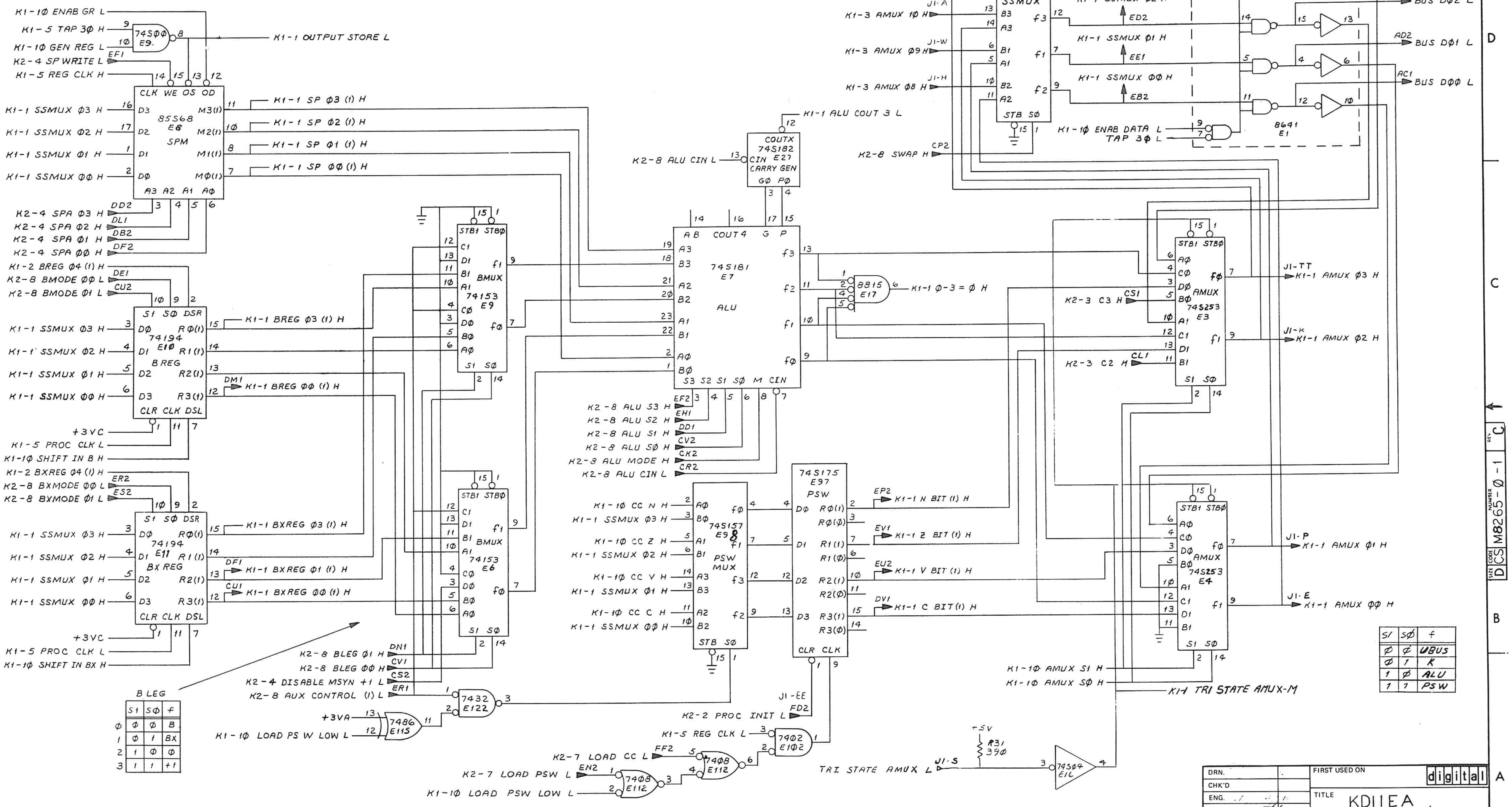
TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.
KD11E-A DATA PATH	D-UA-M8265-0-0	B	PL	M8265-0-0	B
	SHEET 3 OF 3	INSERTION PARTS LIST DATA BASE REV			

DRB 125



B LEG

	S1	S0	F
0	0	0	B
1	0	1	BX
2	1	0	0
3	1	1	+1

S1	S0	f
0	0	UBUS
0	1	R
1	0	ALU
1	1	PSW

(DATA PATH 0-3)

REVISIONS		
CHK	CHANGE NO.	REV.
EL	M8265-00001	A
	M8265-00002	B
RB	M8265-00003	C

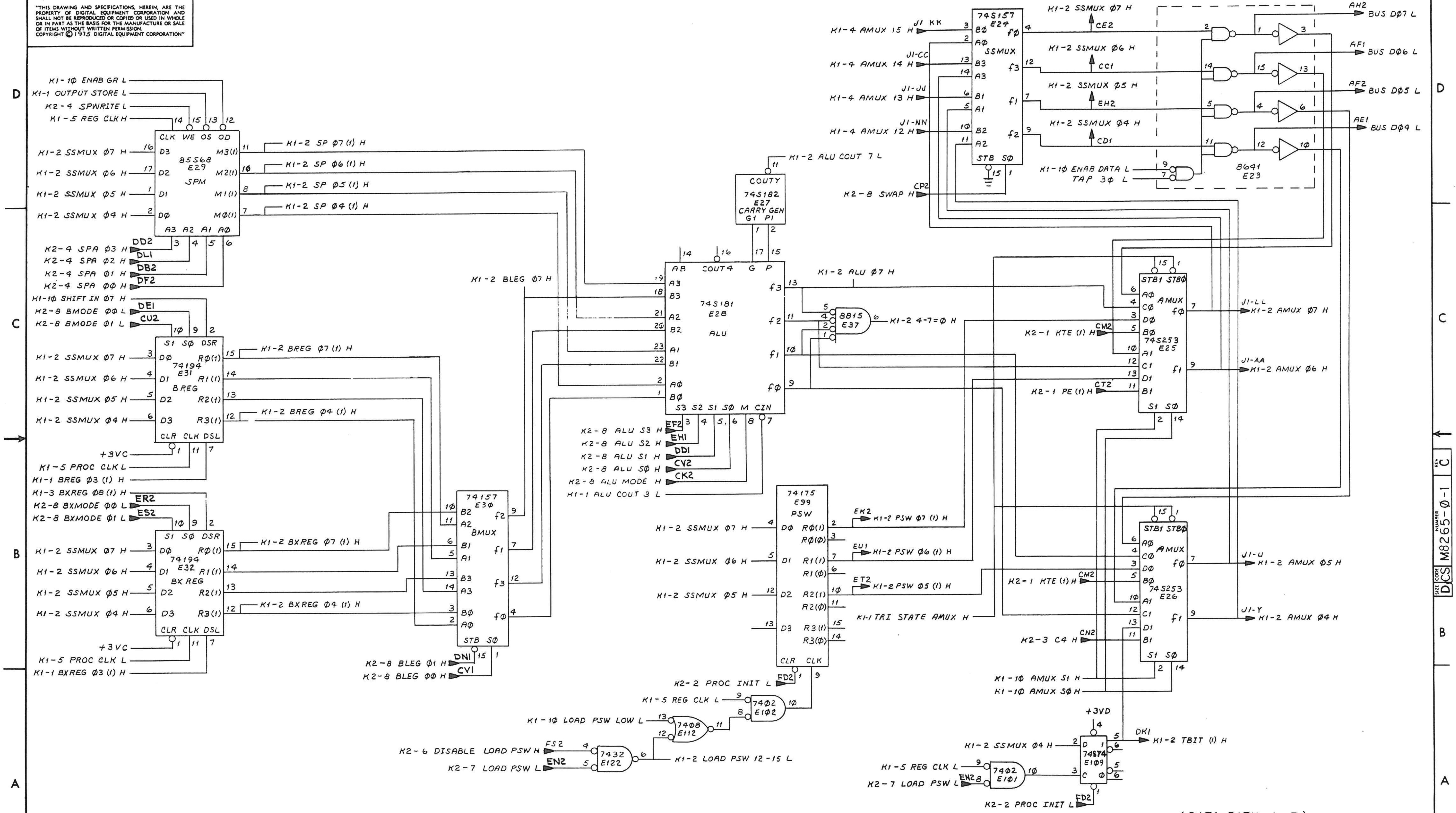
E. Remour 4 May 77 — C.M. McGanahan 25 May 77 — P. Gross 29 AUG 77

R. BARRY — M. SULLIVAN — D. BARRY

Richard Barry 9 May 77 — M Sullivan 7-20-77 — Dick Barry 31 AUG 77

DEC FORM NO.
DRD 138

DRN.		FIRST USED ON	digital
CHK'D		TITLE	KD11EA DATA PATH (K1-1)
ENG.			
PROJ. ENG.			
PROD.			
NEXT HIGHER ASSY.		SIZE CODE NUMBER	REV.
SCALE		D CS M8265-0-1	C
SHEET 1 OF 10		DIST.	



(DATA PATH 4-7)

REVISIONS		
CHK	CHANGE NO.	REV.

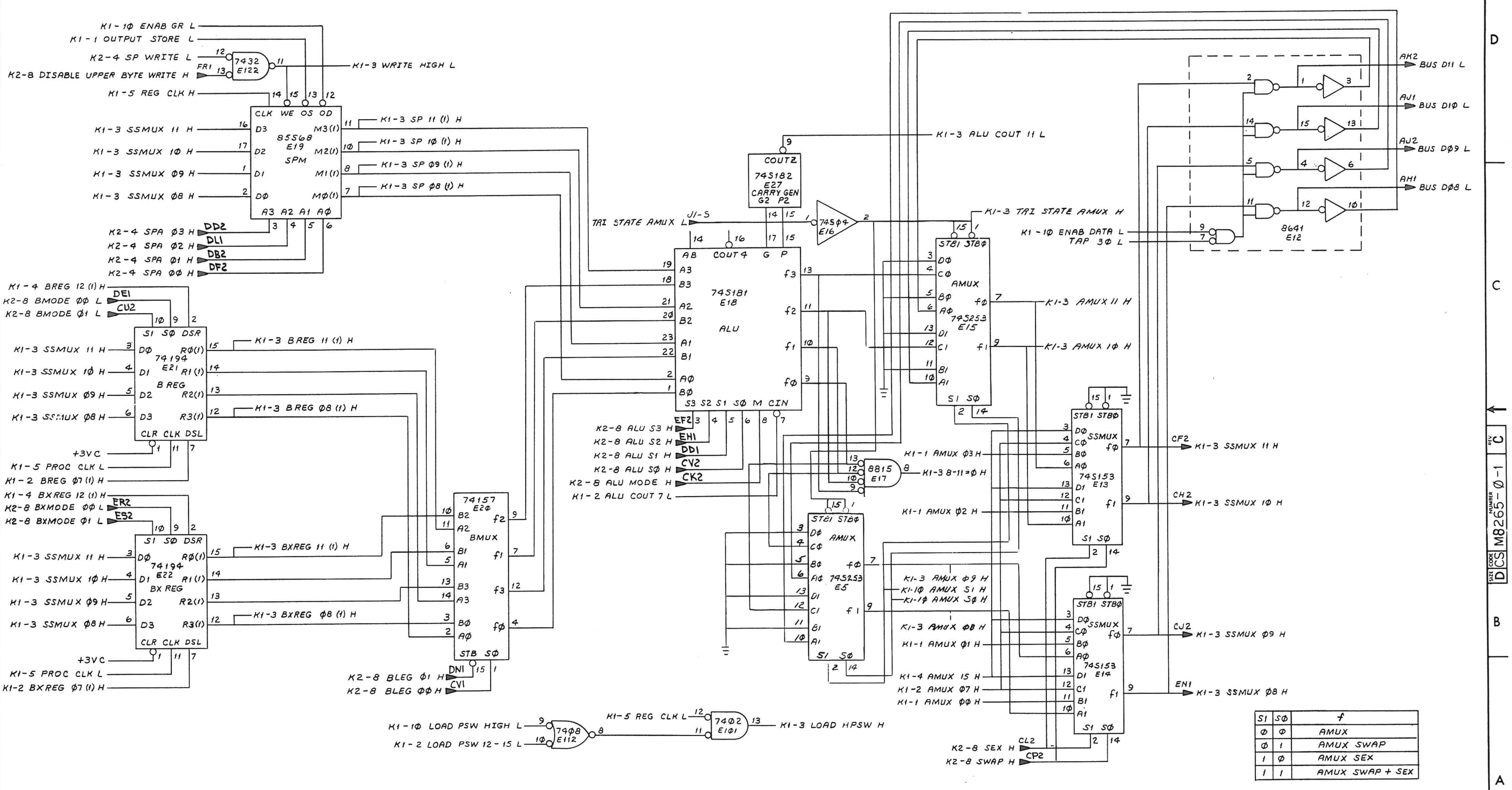
TITLE KD11EA
DATA PATH (K1-2)
SCALE —//—
SHEET 2 OF 10

SIZE	CODE	NUMBER	REV.
D	CS	M8265-0-1	C

DIST.

DEC FORM NO.
DRD 138

8 7 6 5 4 3 2 1



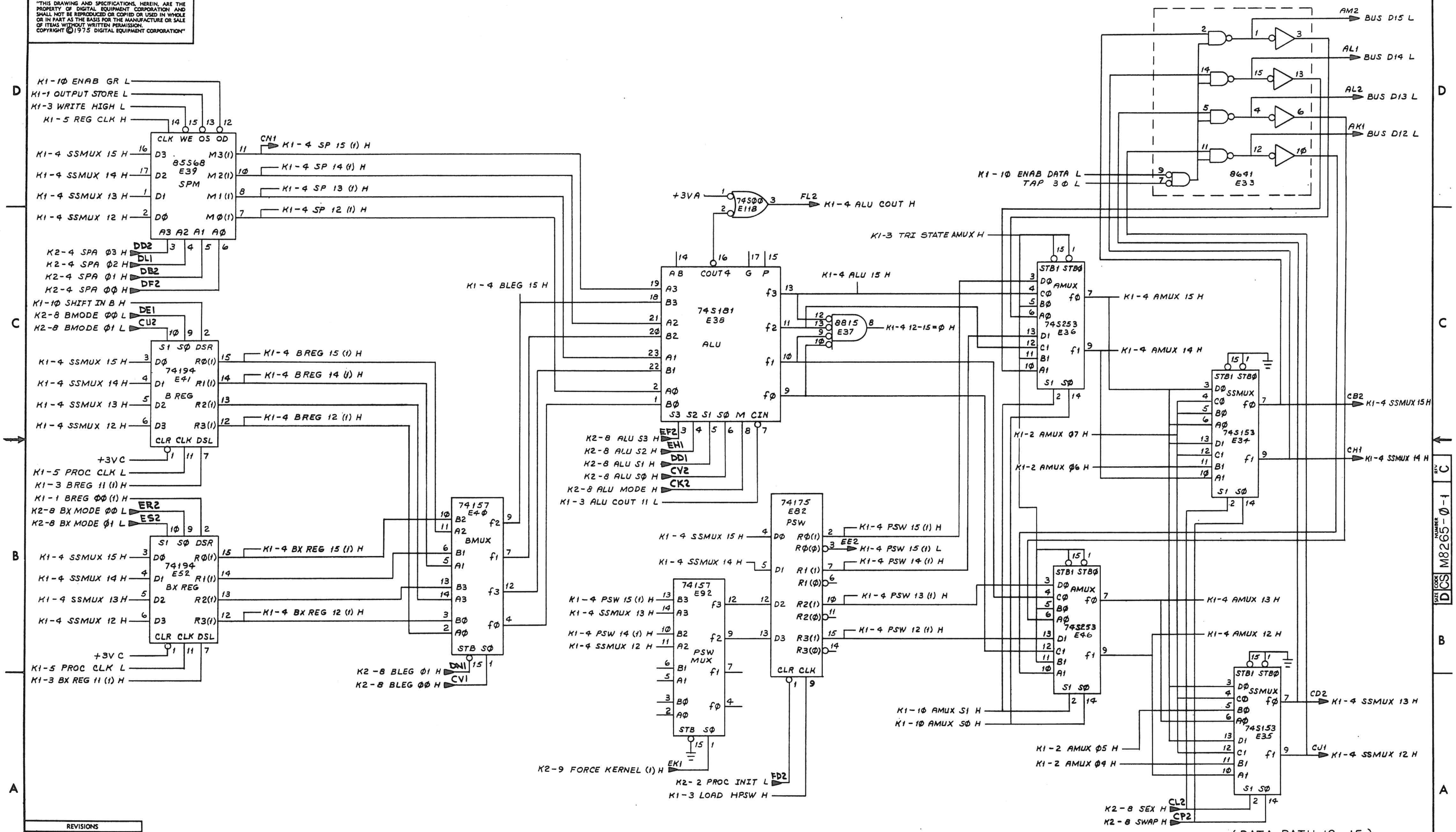
S1	S0	f
0	0	AMUX
0	1	AMUX SWAP
1	0	AMUX SEX
1	1	AMUX SWAP + SEX

(DATA PATH 8-11)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE KD11EA
DATA PATH (K1-3)
SIZE D CODE CS NUMBER M8265-0-1 REV. C
SCALE —//— SHEET 3 OF 10
DIST.

DEC FORM NO. DRD 138



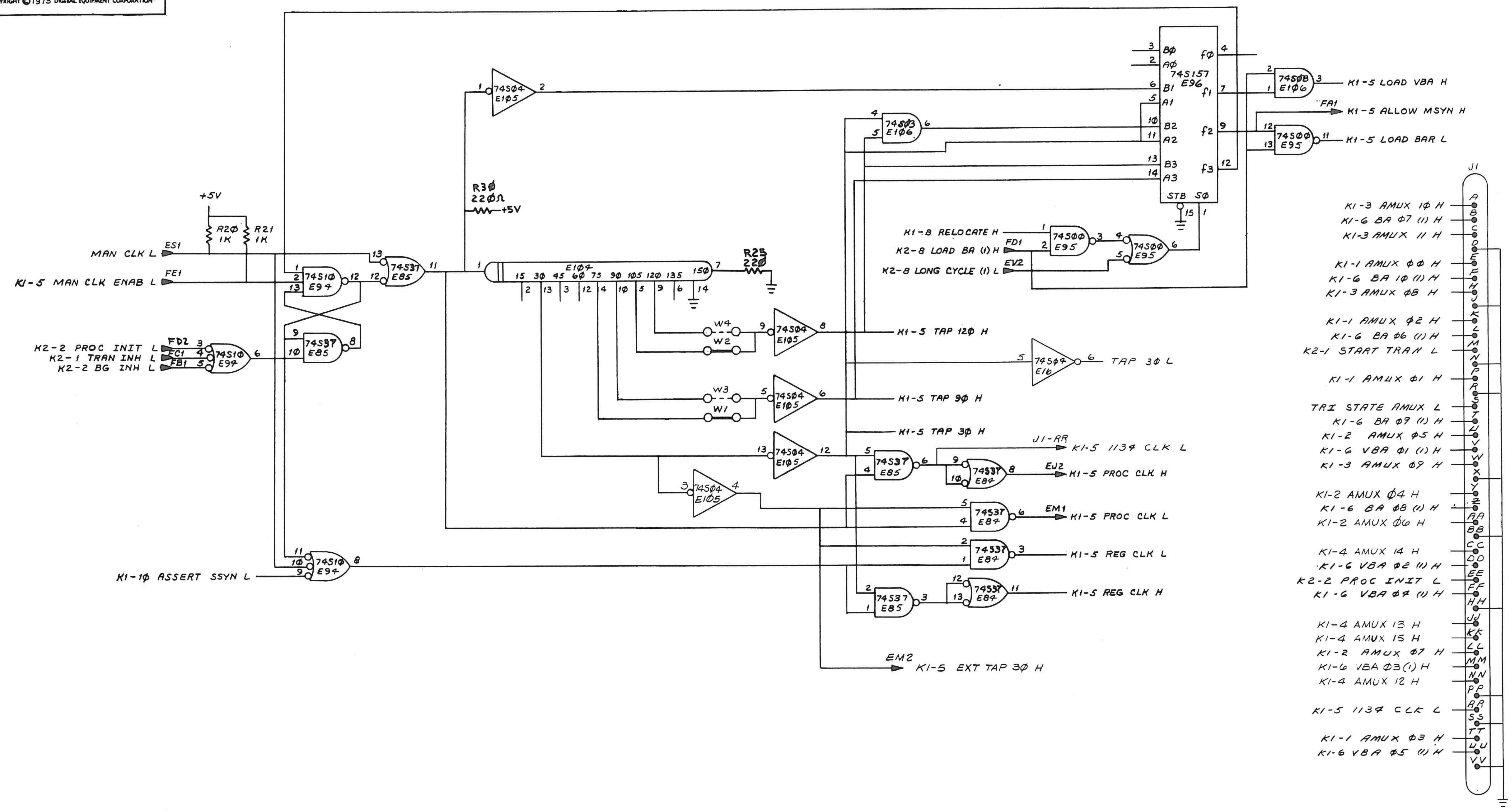
(DATA PATH 12-15)

TITLE KD11EA DATA PATH (K1-4)	SIZE D	CODE CS	NUMBER M8265-0-1	REV. C
SCALE —//—	SHEET 4 OF 10	DIST.		

REVISIONS
CHK | CHANGE NO. | REV.

DEC FORM NO. DRD 138

D CS M8265-0-1 REV C

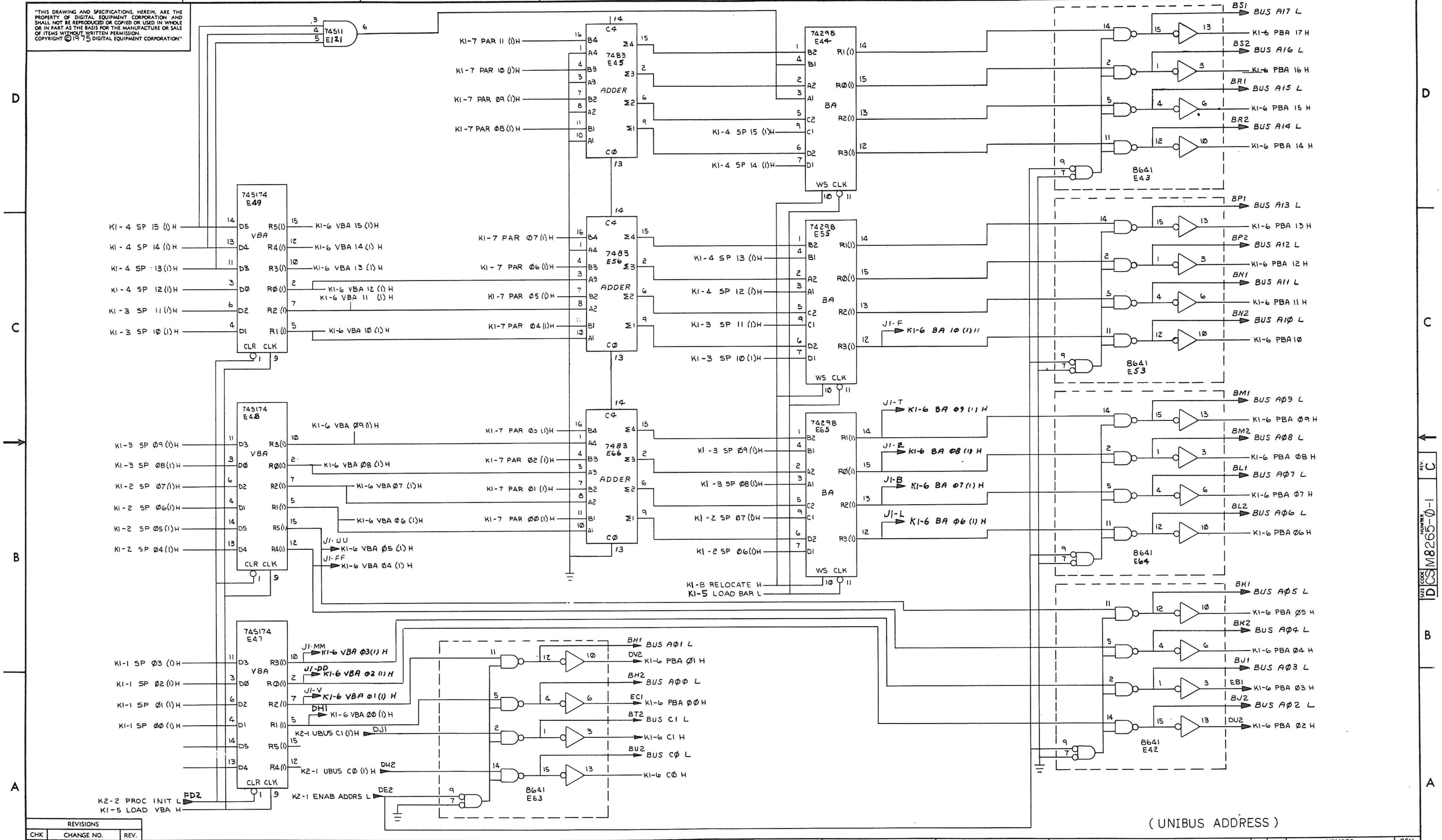


(CPU CLK)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE KD11EA
DATA PATH (K1-5)
SCALE —//— SHEET 5 OF 10
SIZE D CODE CS NUMBER M8265-0-1 REV. C
DIST.

DEC FORM NO. DRD 120



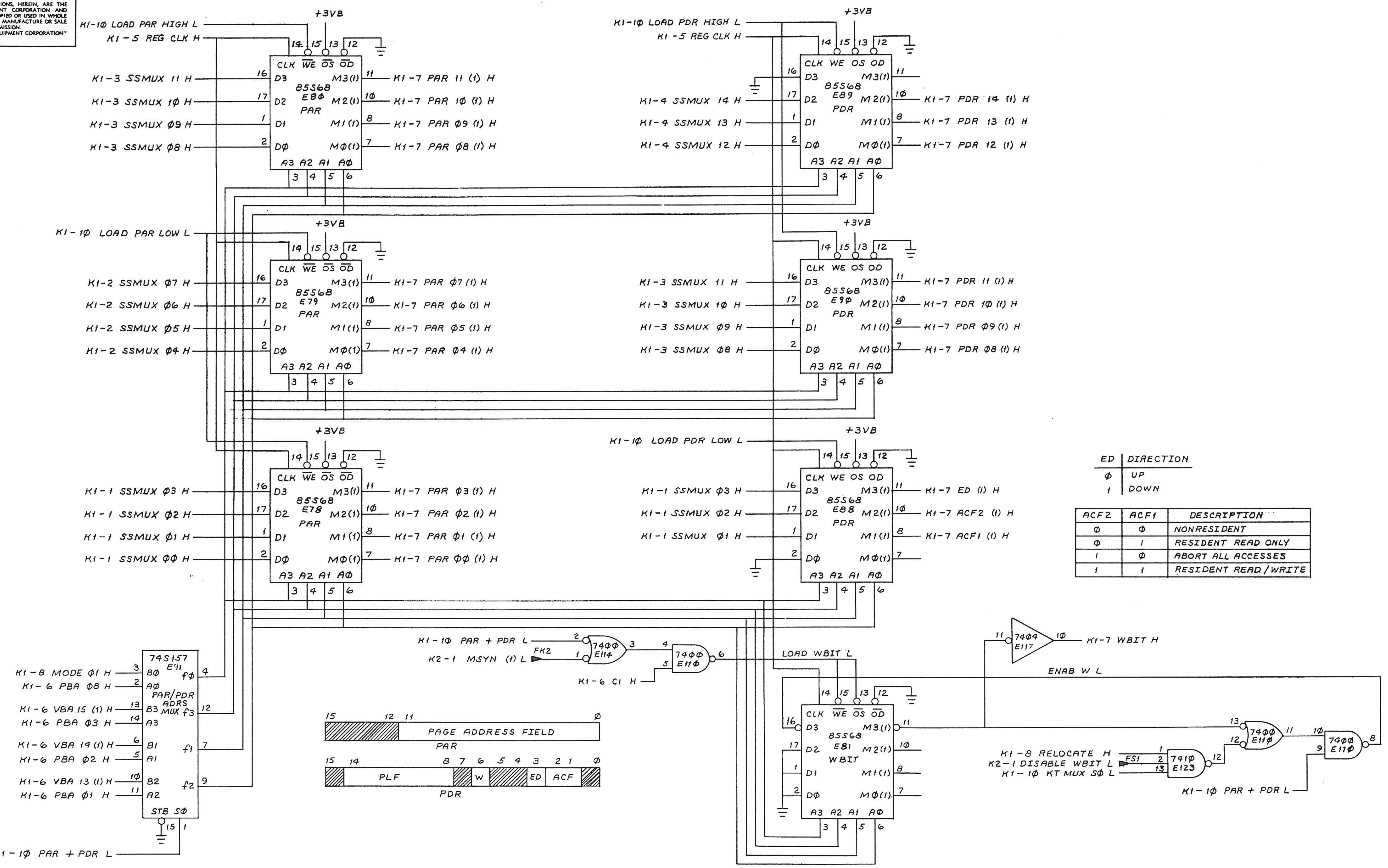
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KD11EA DATA PATH (K1-6)

SIZE D CODE CS NUMBER M8265-0-1 REV. C

SCALE ——— SHEET 6 OF 10 DIST.

DEC FORM NO.
DRD 138



ED	DIRECTION
0	UP
1	DOWN

ACF2	ACF1	DESCRIPTION
0	0	NONRESIDENT
0	1	RESIDENT READ ONLY
1	0	ABORT ALL ACCESSES
1	1	RESIDENT READ/WRITE

(PAR + PDR)

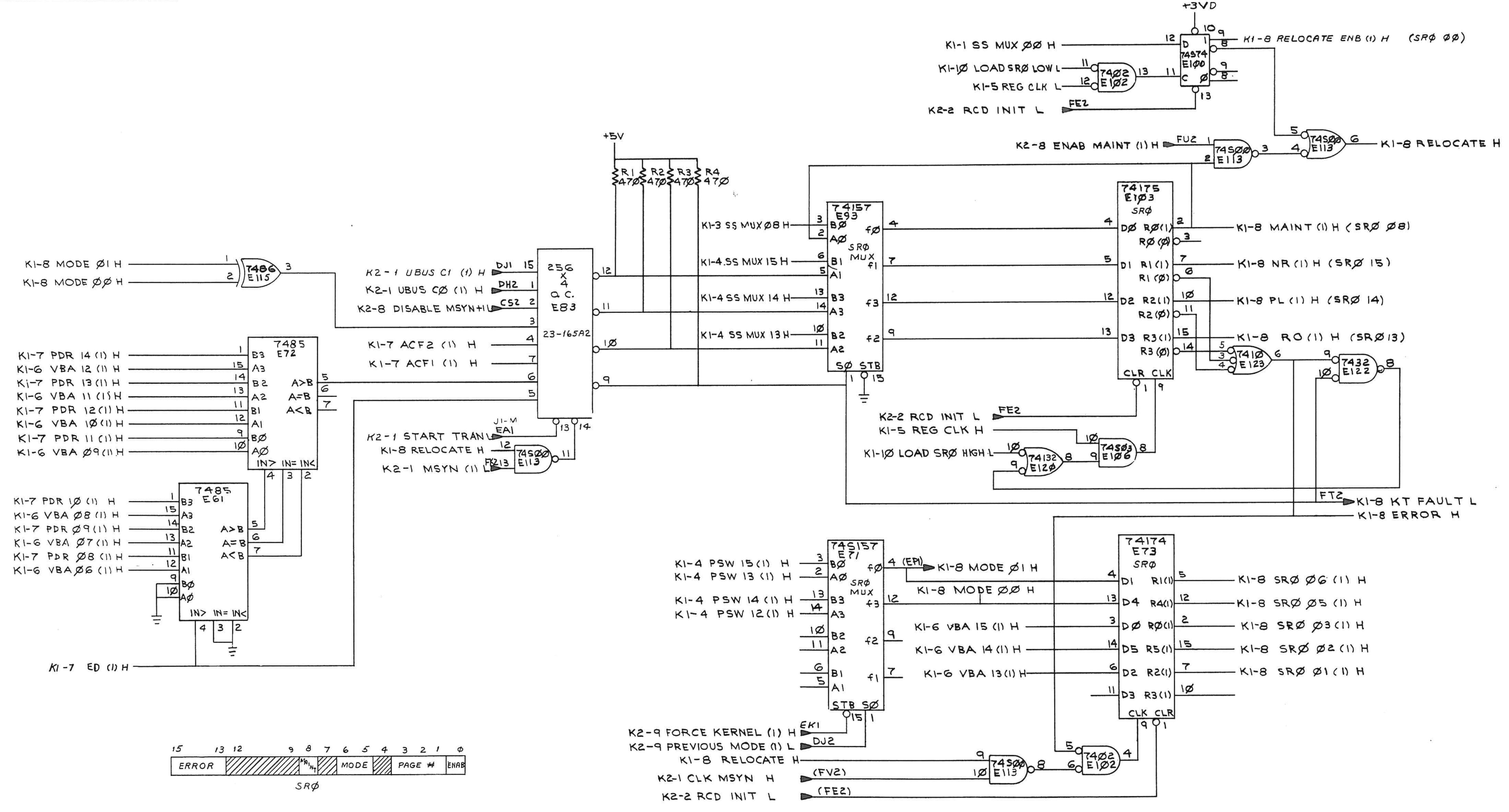
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE KD11EA
DATA PATH (K1-7)

SIZE	CODE	NUMBER	REV.
D	CS	M8265-0-1	C

SCALE —/— SHEET 7 OF 10 DIST.

DEC FORM NO.
DRD 138

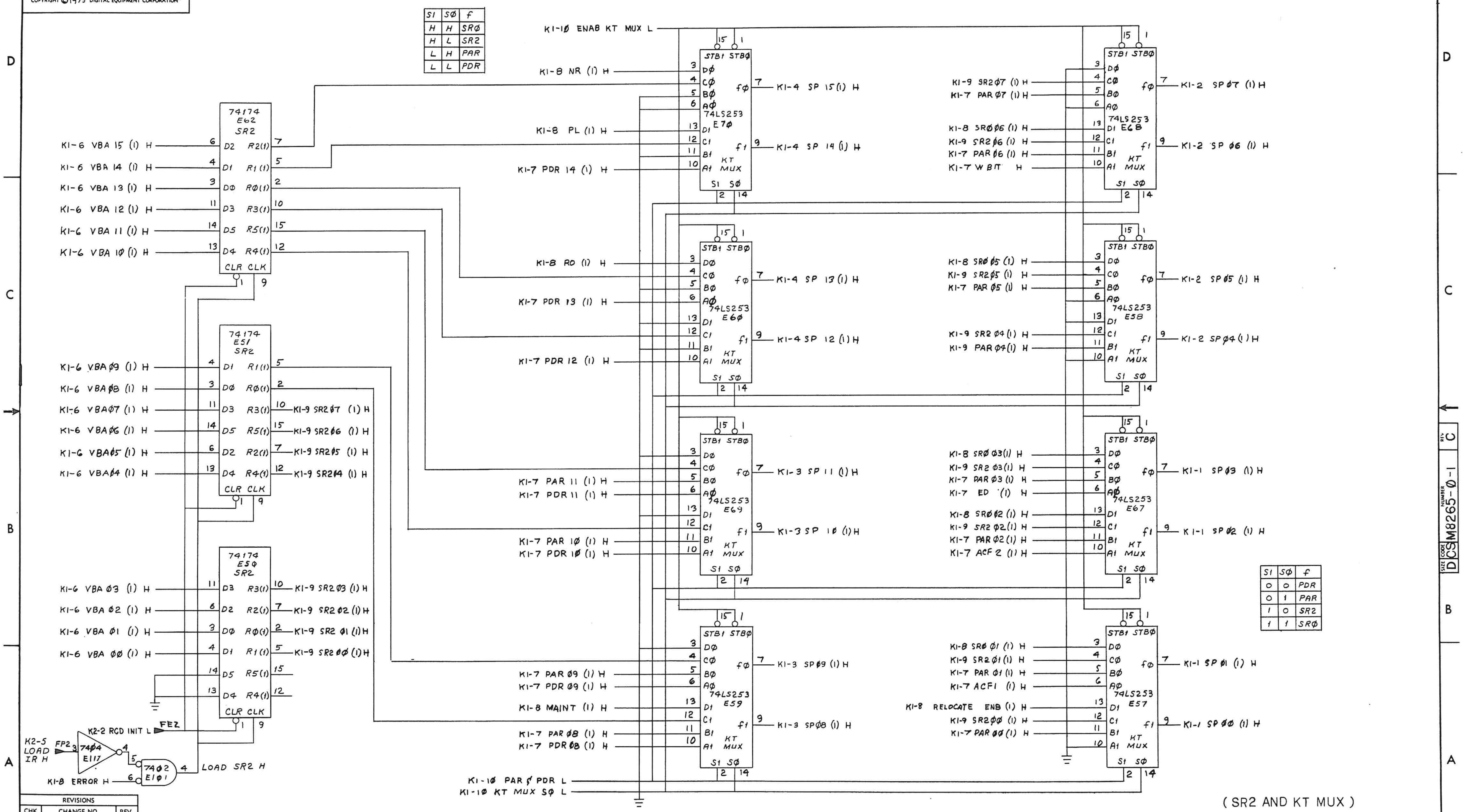


(SR0 AND KT ERROR)

TITLE	SIZE	CODE	NUMBER			REV.
KD11EA DATA PATH (K1-8)	D	CS	M8265-0-1			C
SCALE		SHEET 8 OF 10		DIST.		

REVISIONS
CHK | CHANGE NO. | REV.

DEC FORM NO. DRD 138



S1	S0	f
H	H	SR0
H	L	SR2
L	H	PAR
L	L	PDR

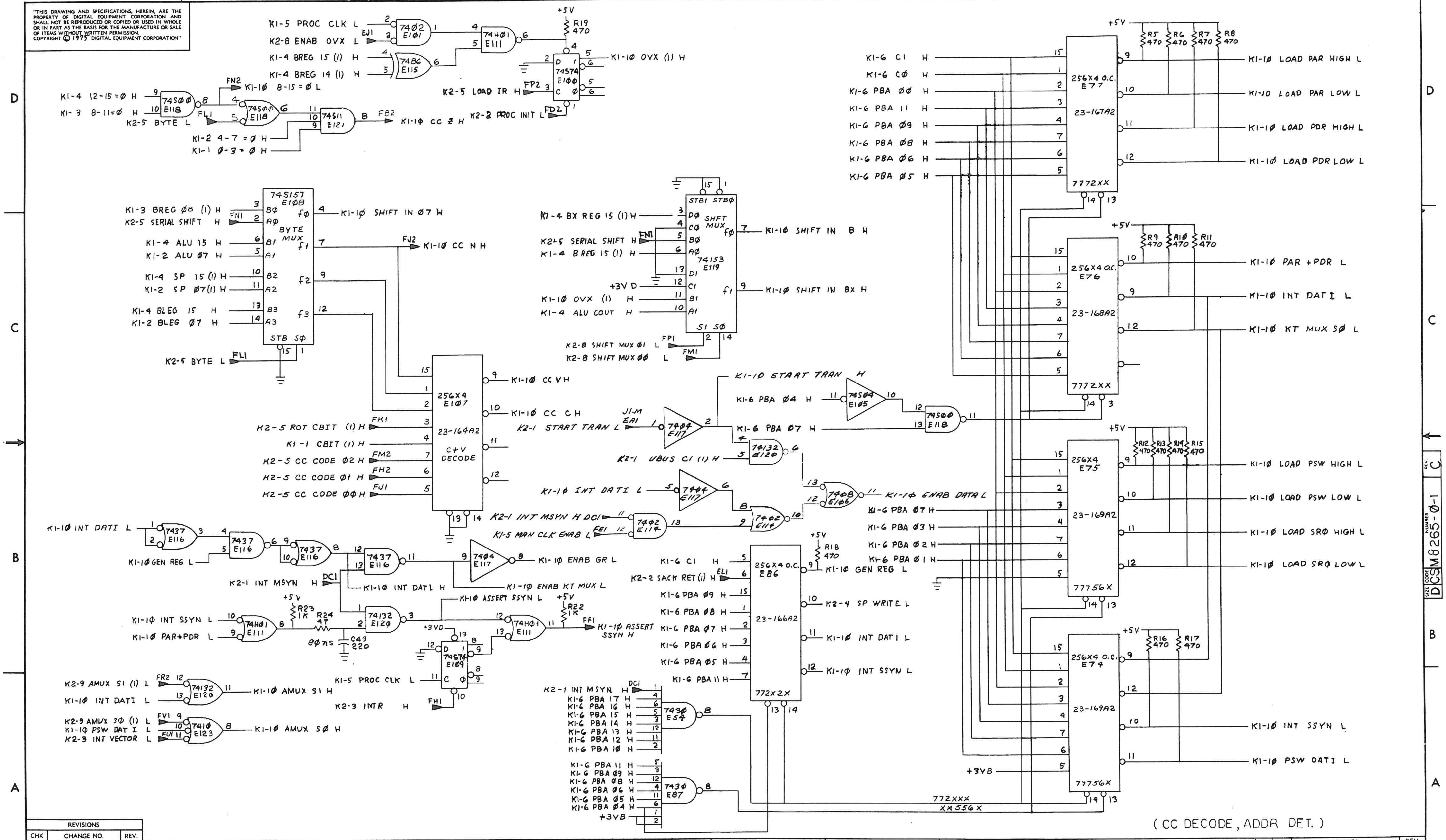
S1	S0	f
0	0	PDR
0	1	PAR
1	0	SR2
1	1	SR0

(SR2 AND KT MUX)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE KD11EA DATA PATH(K1-9)
SIZE D
CODE CS
NUMBER M8265-0-1
REV. C
SCALE —/—/—
SHEET 9 OF 10
DIST.

DEC FORM NO. DRD 138



(CC DECODE, ADDR DET.)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
KD11EA DATA PATH(K1-10)
SIZE D | CODE CS | NUMBER M8265-0-1 | REV. C
SCALE — | SHEET 10 OF 10 | DIST.

DEC FORM NO.
DRD 138

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FIELD MAINTENANCE PRINT SET

TABLE OF CONTENTS

B-TC-FP11-A-4 FLOATING POINT OPTION (TC)
B-DD-FP11-A FLOATING POINT OPTION
D-UA-FP11-A-0 FLOATING POINT OPTION
A-PL-FP11-A-0 FLOATING POINT OPTION (PL)
D-BD-FP11-A-1 BLOCK DIAGRAM
D-UA-M8267-0-0 FLOATING POINT OPTION
B-PL-M8267-0-0 FLOATING POINT OPTION (PL)
D-CS-M8267-0-1 FLOATING POINT OPTION (CS)

D-UA-H8821-0-0 BOARD INTERCONNECT 40 Pin
B-PL-H8821-0-0 BOARD INTERCONNECT 40 Pin (PL)
D-CS-H8821-0-1 BOARD INTERCONNECT 40 Pin (CS)
D-UA-5412416-0-0 BOARD INTERCONNECT 20 Pin
B-PL-5412416-0-0 BOARD INTERCONNECT 20 Pin (PL)
D-CS-5412416-0-1 BOARD INTERCONNECT 20 Pin (CS)
D-UA-W9042-0-0 EXTENDER BOARD ASSY.
B-PL-W9042-0-0 EXTENDER BOARD ASSY. (PL)
D-CS-W9042-0-1 EXTENDER BOARD ASSY. (CS)
A-PL-FP11-A-3 SHIPPING LIST
D-FD-FP11-A-2 FLOW DIAGRAM
D-FD-FP11-A-5 FLOW DIAGRAM

UNIT VARIATIONS COVERED BY THIS PRINT SET
FP11-A

FP11-A
Field Maintenance Print Set

Digital Equipment Corporation

PRINT SET ORDER NO.
MP00189

REV.	CHG. NO.	DATE
A	FP11-A-1	7-77
B	FP11-A-3	5-78

REVISIONS

USED ON OPTION/MODEL	
1134A	

SHEET I OF 1

DRN.	D. HEALY	DATE OCT 76
CHK'D	D. HEALY	DATE OCT 76
PROJ. ENG.		DATE 12-6-76
FIELD SERV.		DATE 12-22-76

digital

TITLE: FLOATING POINT OPTION

SIZE	CODE	NUMBER	REV.
B	TC	FP11-A-4	B

DIST.

EN-01124-16-N675-(327)

DRB 124

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

DRAWING DIRECTORY

CUSTOMER PRINT SET INDEX

THIS IS PRINT SET

SEQUENCE

SEQUENCE

UNIT VARIATIONS

VAR	TITLE	PRINT SET			
FP11-A	FLOATING POINT OPTION				

REVISIONS

DATE	CHG. NO.	REV
7-77	FP11-A-1	A
9-77	FP11-A-2	B
5-78	FP11-A-3	C

USED ON OPTION/MODEL	**DRN.** D. HEALY	**DATE** OCT 76	**TITLE** FLOATING POINT OPTION	
1134A	**CHK'D.** D. HEALY	**DATE** OCT 76		
	PROJ ENG. J W Mitchell	**DATE** 12-20-76		
	PROD.	**DATE** 12-21-76	**SIZE** B **CODE** DD	**NUMBER** FP11-A **REV** C
SHEET 1 **OF** 2	~~FIELD SERV.~~	~~DATE~~	**DIST**	

EN-01062-1A-16-R972-(325)

DRB 106

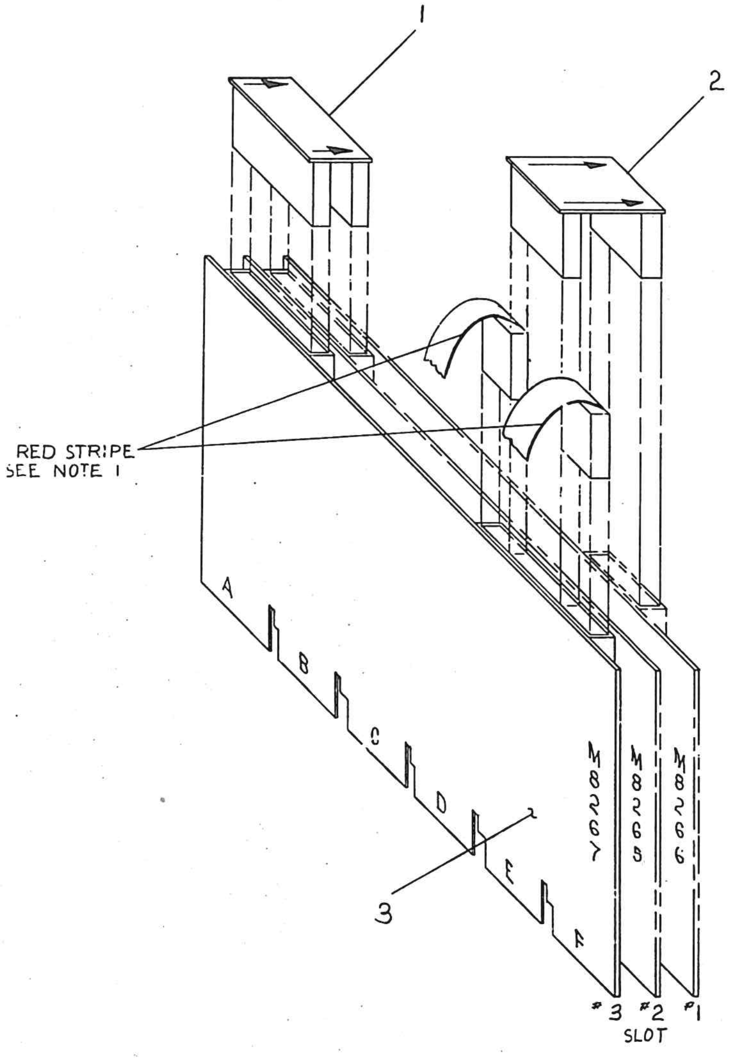
FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	B-TC-FP11-A-4	FLOATING POINT OPTION (FIELD MAINT. PR. SET)	-				
	MP00189	FLOATING POINT OPTION (PR SET ORDER NO.)	-				
	D-UA-FP11-A-0	FLOATING POINT OPTION	M/E				
	A-PL-FP11-A-0	FLOATING POINT OPTION (PL)	M/E				
	D-BD-FP11-A-1	BLOCK DIAGRAM	E				
	D-FD-FP11-A-2	FLOW DIAGRAM					
	D-FD-FP11-A-5	FLOW DIAGRAM					
	A-PL-FP11-A-3	SHIPPING LIST	M/E				
2	B-DD-M8267-0	FLOATING POINT PROCESSOR	M/E				
	B-PL-M3267-0-8	ROM LISTING					
3	B-DD-H8221-0	BOARD INTERCONNECT 40 Pin	M/E				
4	B-DD-5412416-0	BOARD INTERCONNECT 20 Pin	M/E				
5	B-DD-W9042-0	EXTENDER BOARD ASSY.	M/E				

TYPE:
E ELECTRICAL
M MECHANICAL
E/M ELECTRO/MECHANICAL

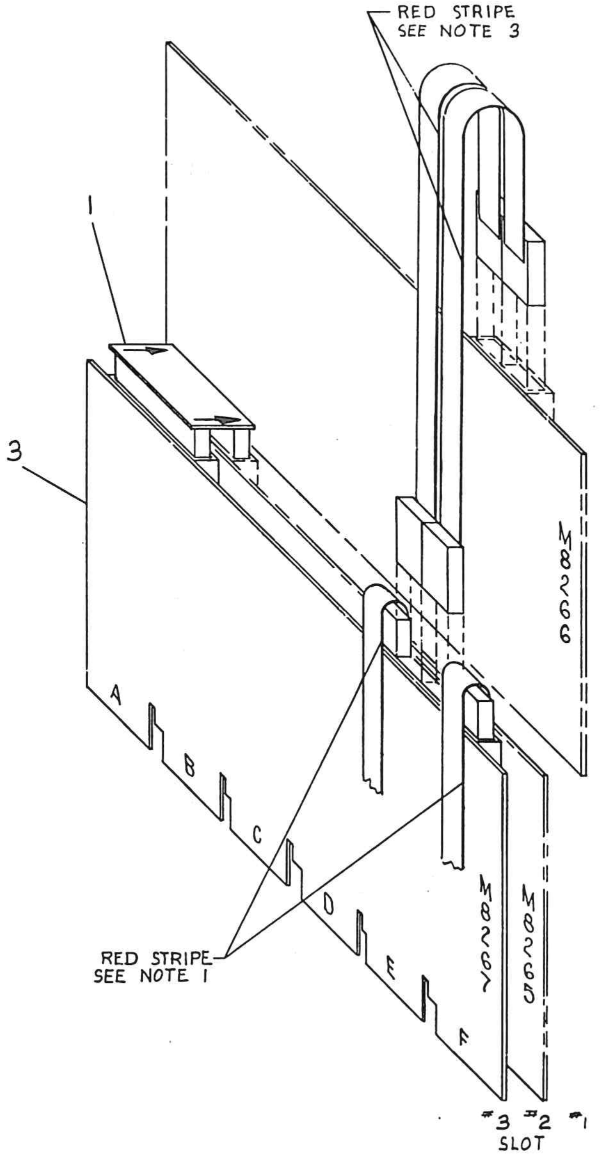
digital

TITLE FLOATING POINT OPTION	SHEET 2 OF 2	SIZE B	CODE DD	NUMBER FP11-A	REV. C

DRB 108A



CONFIGURATION "A"



CONFIGURATION "B"

NOTES:

1. THESE CABLES #7011411-1D ARE PART OF KY11-LB OPTION AND MAY NOT BE PRESENT IN SOME CONFIGURATIONS.
2. THE W9042 EXTENDER BD. ASSY. IS STORED IN THE BACKPLANE AND IS USED FOR SOME MAINTENANCE OPERATIONS.
3. THESE CABLES ARE INSTALLED DURING MAINTENANCE ONLY. AND ARE CLIPPED TO THE W9042 FOR STORAGE. THESE CABLES #7011411-1D ARE PART OF W9042.
4. MODULES M8265 & M8266 ARE PART OF KD11-EA & SHOWN FOR REF ONLY.

	DESCRIPTION	DWG./PART NO.	ITEM NO.
1	EXTENDER BD. ASSY.	D-UA-W9042-0-0	4
1	FLOATING POINT (FP11-A)	D-UA-M8267-0-0	3
1	BOARD, INTERCONN 20 PIN	D-UA-5412416-0-0	2
1	BOARD, INTERCONN 40 PIN	D-UA-H8821-0-0	1

QUANTITY & VARIATION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

ANGLES ±0° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES					
SURFACE QUALITY IN ✓ MICROINCHES		OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 80.0
	MEDIUM ☐	±.004	±.008	±.012	±.016	±.024	±.04
	PREFERRED ☐	±.012	±.016	±.025	±.04	±.063	±0.1

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL SEE PARTS LIST

FINISH —/—/—

DRN. B.O. Lodge	11 OCT 76	
CHK'D D. Kozy	29 OCT 76	
ENG. David [illegible]	16 DEC 76	
PROJ. ENG. MITCHELL	20 DEC 76	
PROD. [illegible]	31 DEC 76	

NEXT HIGHER ASSY. B-DD-FP11-A

SCALE NONE

SHEET 1 OF 2

FIRST USED ON 1134

digital

TITLE

FLOATING POINT OPTION

SIZE	CODE	NUMBER	REV.
D	UA	FP11-A-0	

DIST.

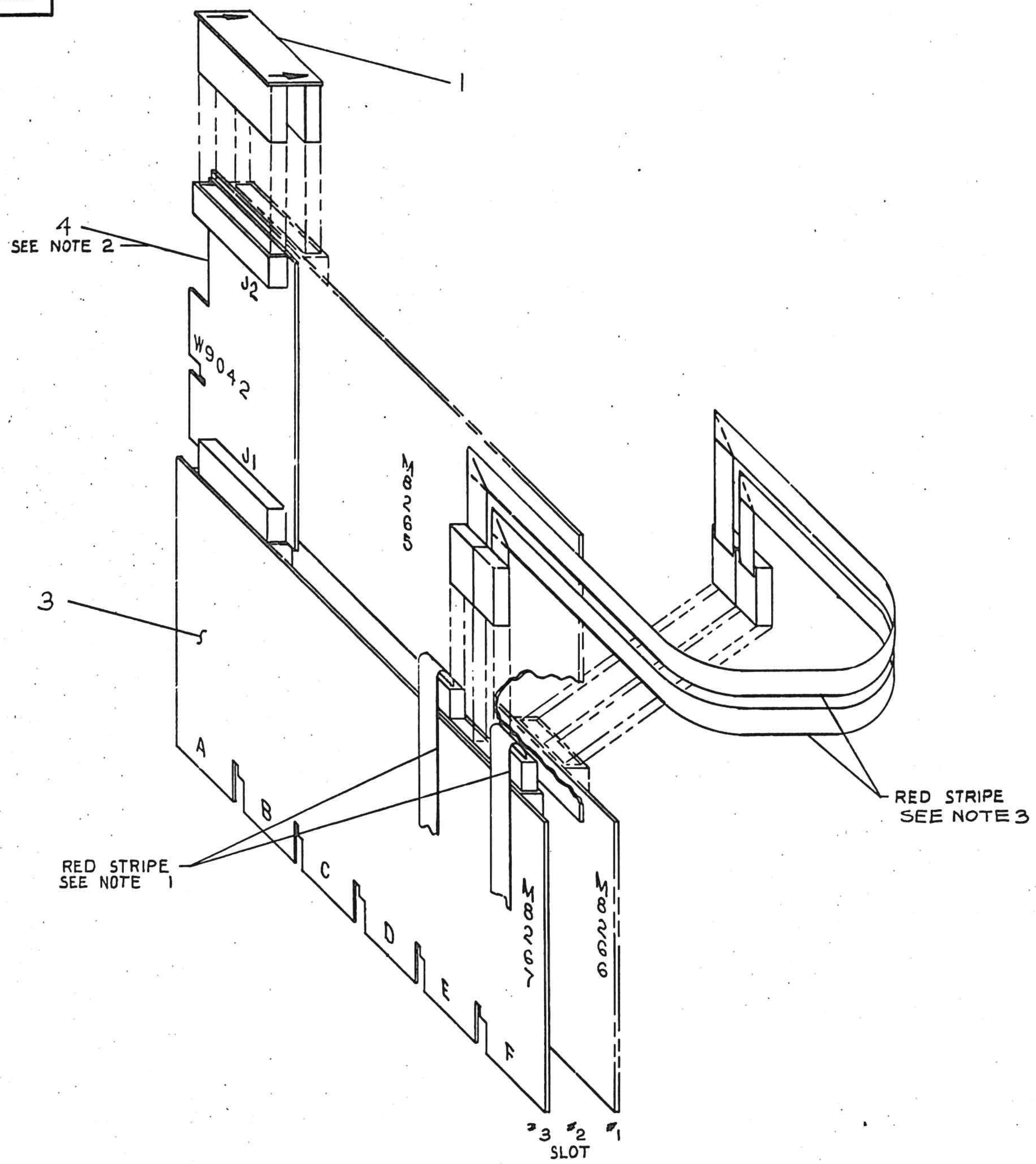
REVISIONS

REV.	CHANGE NO.	CHK

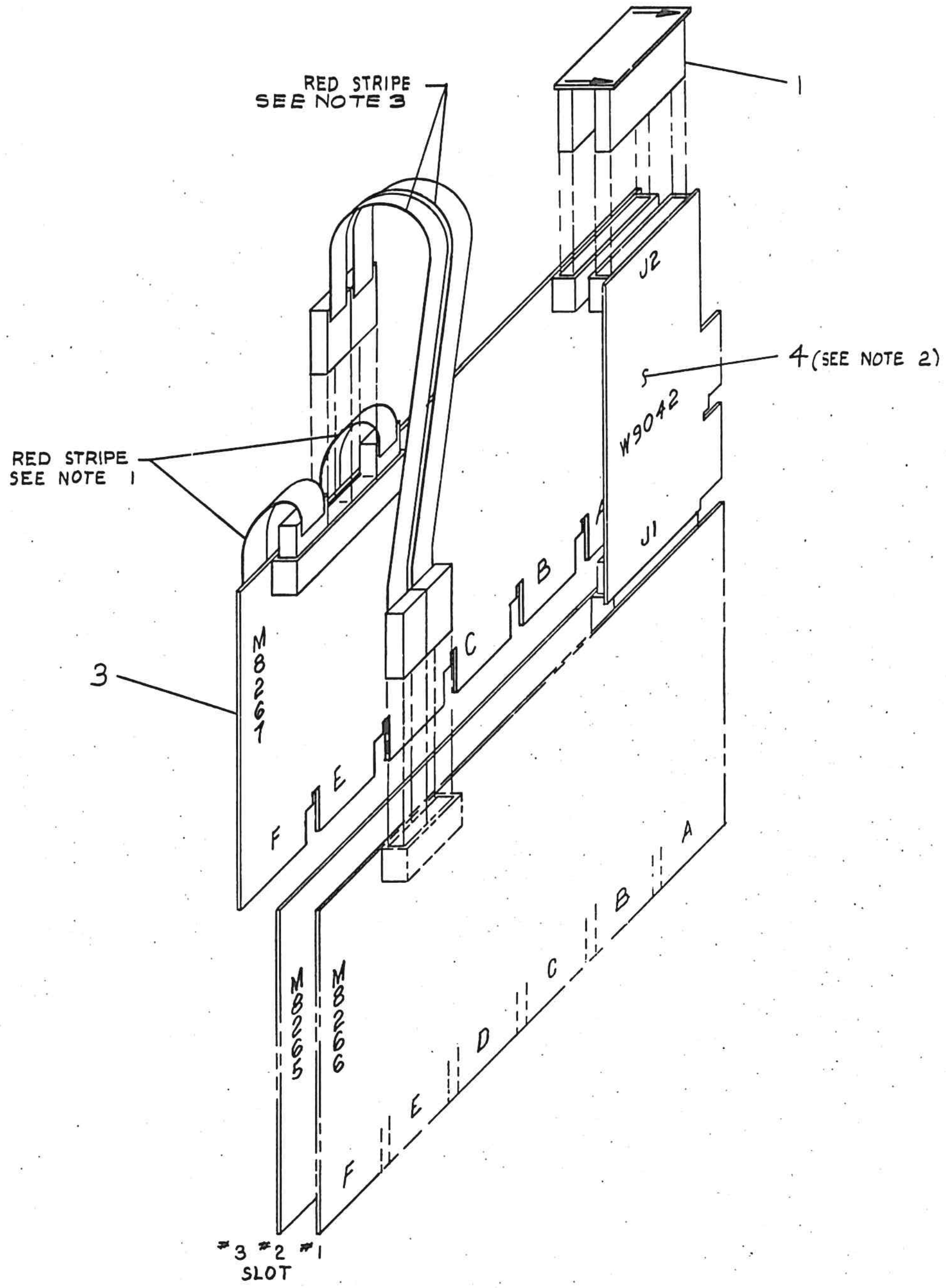
DEC FORM NO. DRF 100-C

REV. | NUMBER FP11-A-0 | SIZE D | CODE UA

SIZE D | CODE UA | NUMBER FP11-A-0 | REV.



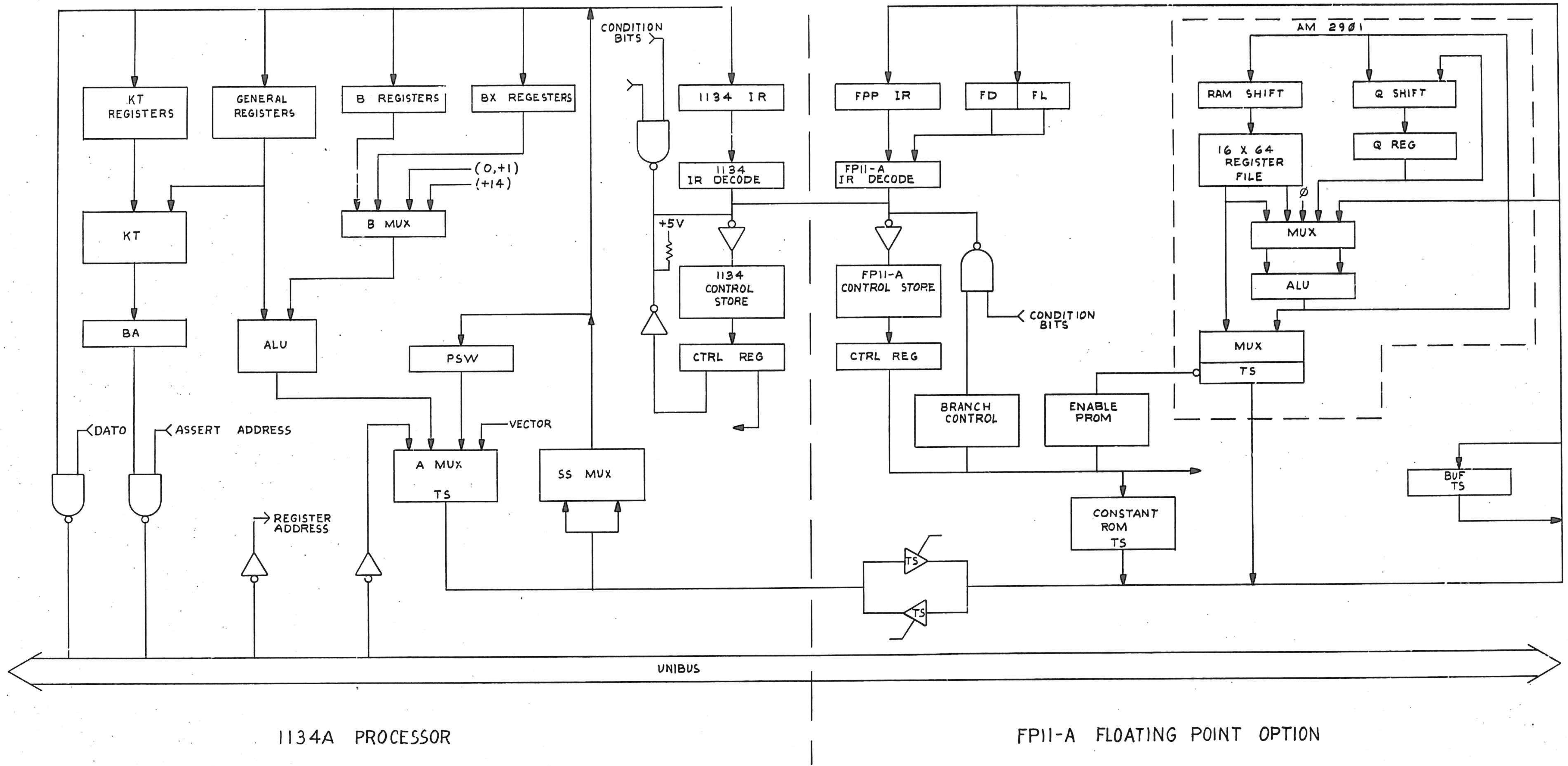
CONFIGURATION "C"



CONFIGURATION "D"

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
FLOATING POINT OPTION	D	UA	FP11-A-0	
SCALE NONE SHEET 2 OF 2	DIST.			



REVISIONS
REV. | CHANGE NO. | CHK

DRN. B Blodgett	14 DEC 76
CHK'D D. Healy	20 DEC 76
ENG. [illegible]	20 DEC 76
PROJ. ENG. M. White	[illegible]
PROD. [illegible]	[illegible]

NEXT HIGHER ASSY.
B-DD-FP11-A
SCALE
SHEET 1 OF 1

FIRST USED ON 1134 A
digital

TITLE 1134 FLOATING POINT PROCESSOR FP11-A

SIZE	CODE	NUMBER	REV.
D	BD	FP11-A-1	

DIST.

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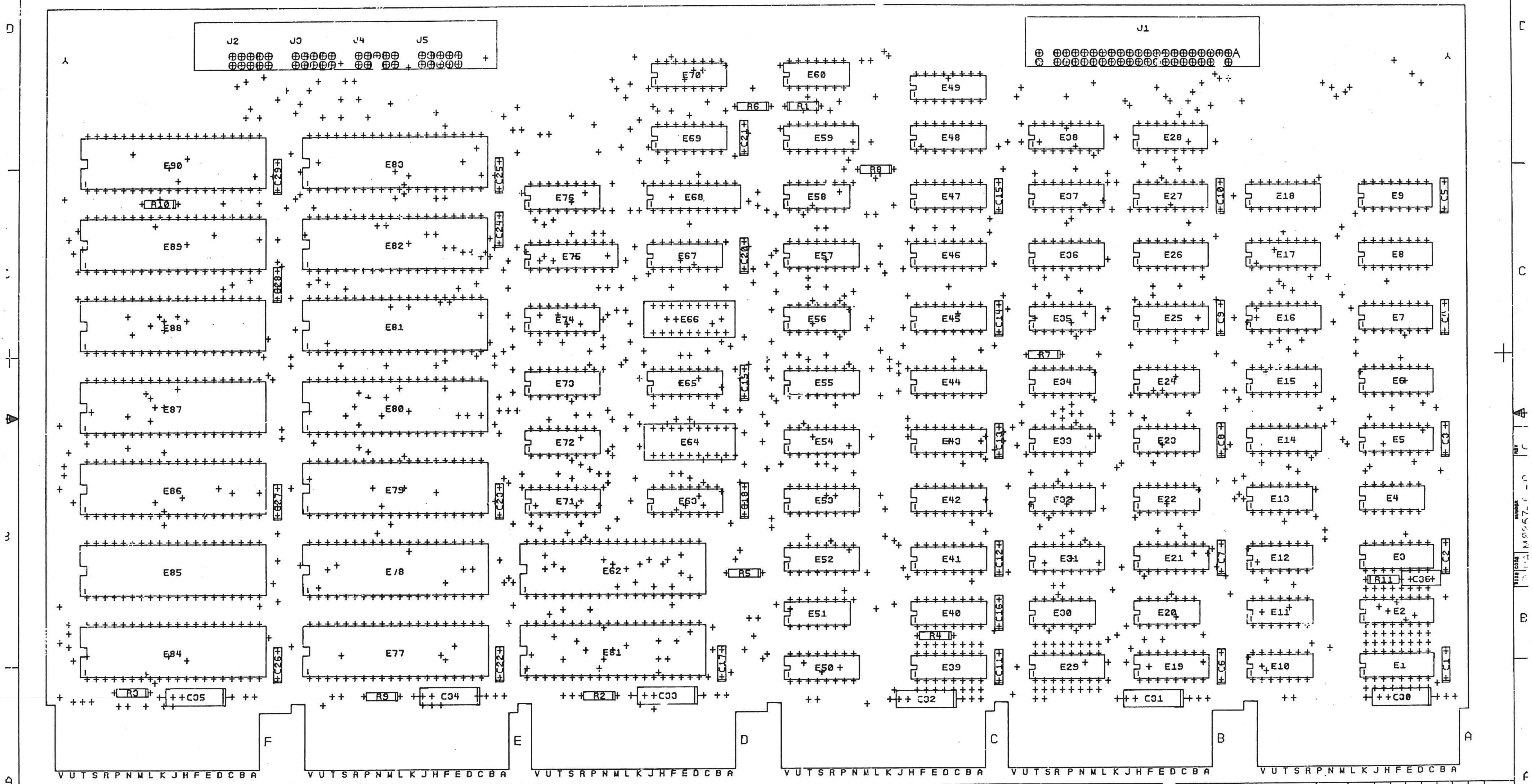
COMPONENT SIDE VIEW



NOTES:

REV	CHANGE NO	CHK

ETCH REV.
P.C. DESIGN DATA BASE REV.

SIGNATURES	DATE
DRN. Floyd Crowley	3-4-77
CHK'D. Frank E Smart	4-20-77
ENG. M. Sullivan	7-19-77
PROJ. ENG. M. Sullivan	7-18-77
PROD. RBKing	15-Jul-77

SCALE 2/1
SHT. 1 OF 3
NEXT HIGHER ASSY. B-DD-M8267-0

digital

TITLE 11/34 FLOATING PT OPTION

SIZE	CODE	NUMBER	REV
D	U4	M8267-0-C	C

8 7 6 5 4 3 2 1

D C B A

MS# 116365

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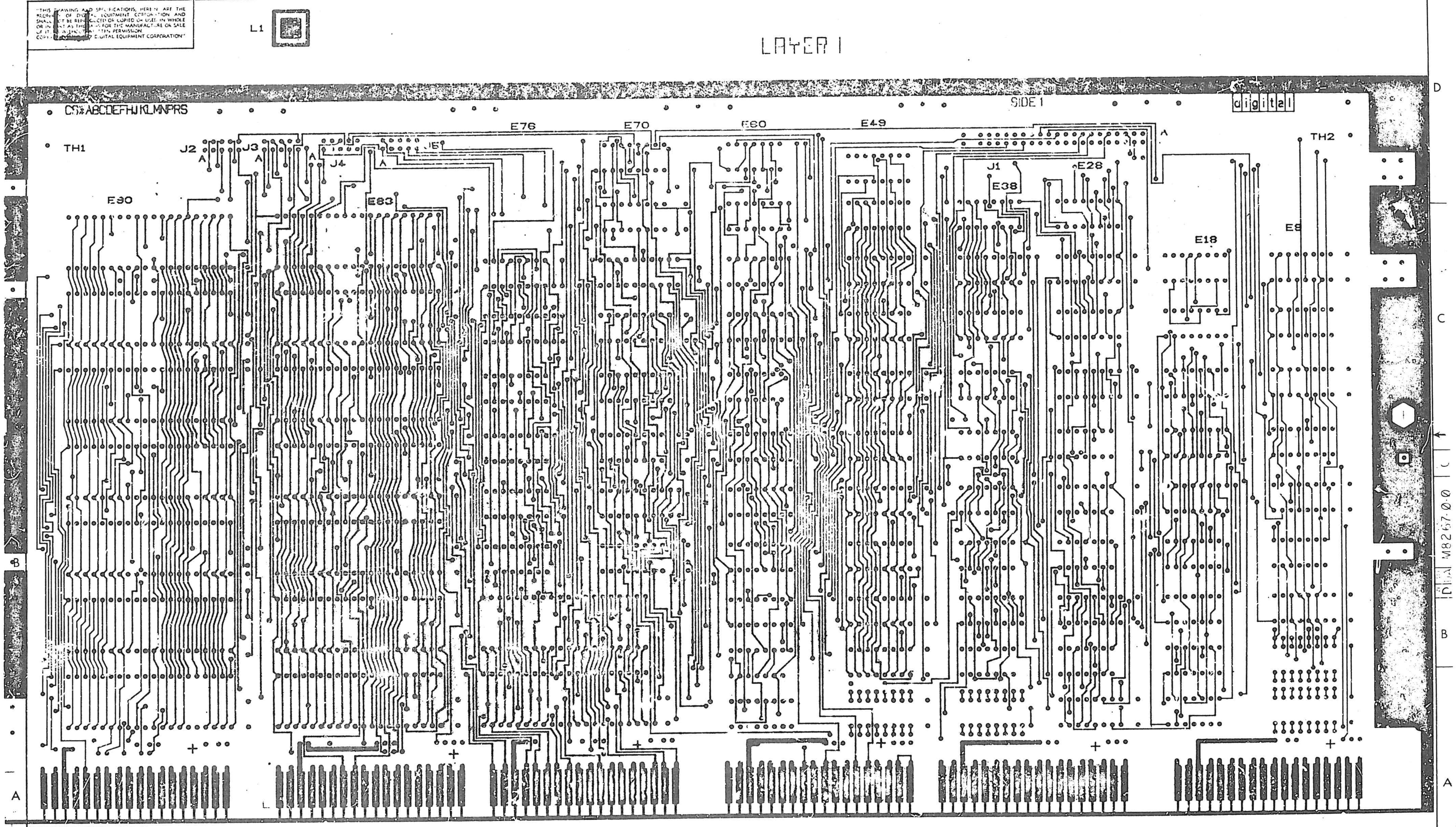
LAYER 1



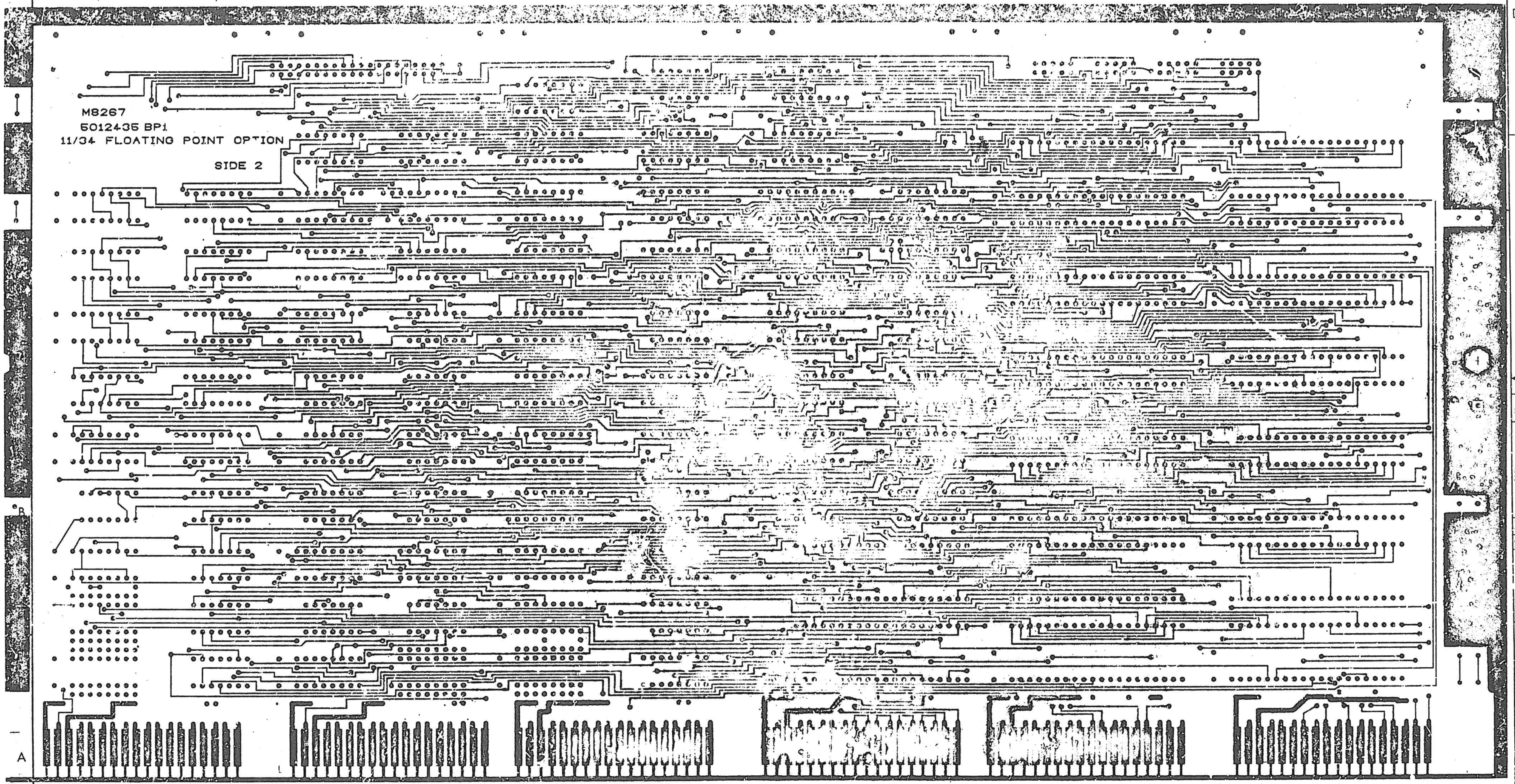
REVISIONS		
CHK	CHANGE NO	REV.

TITLE 11/34 FLOATING
PT. OPTION

SIZE	CODE	NUMBER	REV.
D	UA	M8267-0-0	C

SCALE 2/1
SHEET 2 OF 3

L4



REVISIONS		
CHK	CHANGE NO	REV.

TITLE 11/34 FLOATING PT. OPTION	SIZE D	CODE UA	NUMBER M8267-0-0	REV. C
SCALE 2/1	SHEET 3 OF 3			

DIGITAL EQUIPMENT CORPORATION
PARTS LIST

MADE BY D. J. SIREEN DATE 12 JULY 76	CHECKED F. SEIDMAN DATE 18 AUG 76	SECTION	NOTES:
ENG M. Sidler DATE 7/18/77	PROD R. B. KING DATE 15 Jul 77	ISSUED SECTION	

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION M8267-0-0	REF DESIGNATION
1	D-MD-5012435-0-0	5012435	ETCHED BOARD	1	
2		1005306	CAPACITOR, 6.8 uf, 35V, 10% TANT	6	C30 thru C35
3		1012784	CAPACITOR, .047 uf 50V, CER	29	C1 thru C29
4		1213506-01	RT. ANGLE HEADER 40 POS.	1	J1
5		1213506-02	RT. ANGLE HEADER 52 POS.	1	J2 thru J5 (ONE CONNECTOR)
6					
7		1300271	RESISTOR, 220, 1/4W, 5%	1	R1
8		1300295	RESISTOR, 330, 1/4W, 5%	2	R7,R8
9		1300316	RESISTOR, 470, 1/4W, 5%	5	R2,R3,R9,R10,R4
10		1300229	RESISTOR, 100, 1/4W, 5%	1	R11
11		1301401	RESISTOR, 750, 1/4W, 5%	1	R6
12		1910533	I.C. DEC 74S03	4	E11,E20,E23 E32
13		1910535	I.C. DEC 74S05	1	E33
14		1910532	I.C. DEC 74S00	2	E22,E60
15		1910534	I.C. DEC 74S04	2	E35,E34
16		1910536	I.C. DEC 74S10	1	E30
17		1910539	I.C. DEC 74S20	1	E10
18		1910544	I.C. DEC 74S74	1	E13
19		1910547	I.C. DEC 74S153	2	E59,E69
20		1910548	I.C. DEC 74S157	1	E70
21		1910550	I.C. DEC 74S174	9	E27,E31,E28,E49,E52,E53,E57,E65.E67

E.C.O. NO.

TITLE 11/34 FLOATING POINT OPTION	ASSY NO. D-UA-M8267-0-0	SIZE B	CODE PL	NUMBER M8267-0-0	REV. C
	SHEET 1 OF 3	INSERTION PARTS LIST DATA BASE REV			

DRB 125

DIGITAL EQUIPMENT CORPORATION
PARTS LIST

MADE BY D. J. SIREEN DATE 12 JULY 76	CHECKED F. SEIDMAN DATE 18 AUG 76	SECTION	
ENG m. Sullivan DATE 7/18/77	PROD R. B. KING DATE 15 Jul 77	ISSUED SECTION	

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION												REF DESIGNATION
				M8267-0-0												
22		1910837	I.C. DEC 8093	3												E51 E56,E58
23		1910957	I.C. DEC 74S175	2												E18,E26
24		1911527	I.C. DEC 8097	6												E5 thru E9,E16
25		1912097	I.C. DEC 74S182	6												E50,E63,E71 thru E74
26		1912388	I.C. DEC 74S02	1												E24
27		1912746	I.C. DEC 74S37	1												E12
28		1911330	I.C. DEC 74173	4												E3,E14,E15,E25
29		1913245	I.C. DEC AM 2901	16												E61 E62,E77 thru E90
30		1911637	I.C. DEC 74132	1												E4
31		1212385	40 PIN SOCKET	16												E61,E62 E77 thru E90
32		1000015	CAPACITOR, 82 pf, 5%	1												C36
33		7417214	HANDLE, MODIFIED	1												
34			I.C. SPARES	4												E1,E2,E29,E39
35		9000024-01	EYELET	9												
36		23157A1	I.C. DEC PROM 32 x 8 T.S.	1												E17
37		23153A1	I.C. DEC PROM 32 x 8 T.S.	1												E19
38		23154A1	I.C. DEC PROM 32 x 8 T.S.	1												E21
39		23155A1	I.C. DEC PROM 32 x 8 T.S.	1												E54
40		23158A1	I.C. DEC PROM 32 x 8 T.S.	1												E55
41		23156A1	I.C. DEC PROM 32 x 8 T.S.	1												E76
42		23014F1	I.C. DEC PROM 1K x 4 O.C.	1												E64

E.C.O. NO.

TITLE 11/34 FLOATING POINT OPTION	ASSY NO. D-UA-M8267-0-0	SIZE B	CODE PL	NUMBER M8267-0-0	REV. C
	SHEET 2 OF 3	INSERTION PARTS LIST DATA BASE REV			

DRB 125

DIGITAL EQUIPMENT CORPORATION
PARTS LIST

MADE BY	D. J. SIREEN	CHECKED	F. SEIDMAN	SECTION	
DATE	12 JULY 76	DATE	18 AUG 76		
ENG		PROD	R.B. KING	ISSUED SECTION	
DATE	7/18/77	DATE	15 Jul 77		

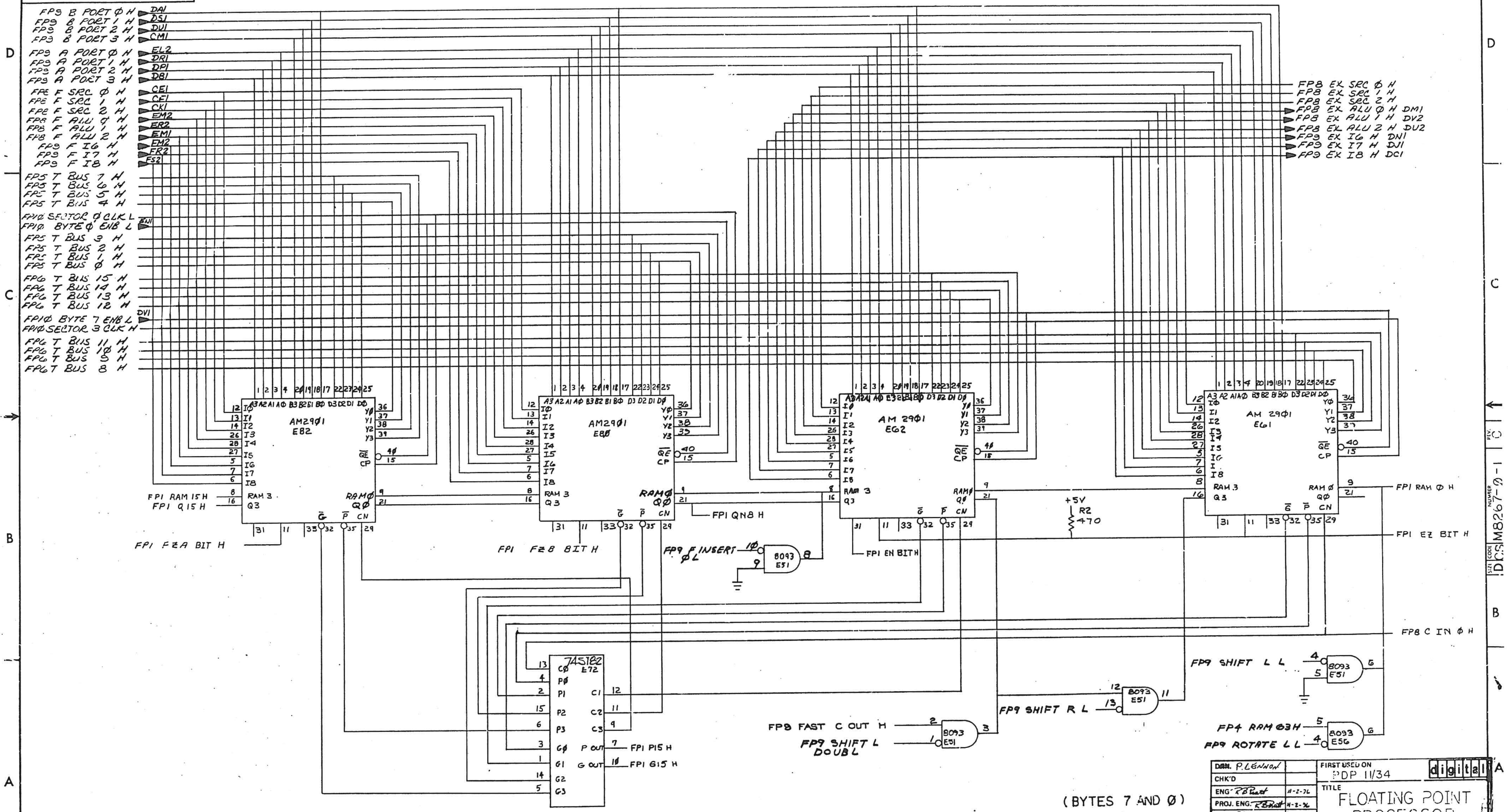
NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION M8267-0-0	REF DESIGNATION
43		23015F1	I.C. DEC PROM 1K x 4 O.C.	1	E66
44		23435A9	I.C. DEC PROM 512 x 4 T.S.	1	E45
45		23436A9	I.C. DEC PROM 512 x 4 T.S.	1	E44
46		23437A9	I.C. DEC PROM 512 x 4 T.S.	1	E43
47		23438A9	I.C. DEC PROM 512 x 4 T.S.	1	E38
48		23439A9	I.C. DEC PROM 512 x 4 T.S.	1	E42
49		23440A9	I.C. DEC PROM 512 x 4 T.S.	1	E41
50		23441A9	I.C. DEC PROM 512 x 4 T.S.	1	E40
51		23442A9	I.C. DEC PROM 512 x 4 T.S.	1	E37
52		23443A9	I.C. DEC PROM 512 x 4 T.S.	1	E36
53		23444A9	I.C. DEC PROM 512 x 4 T.S.	1	E48
54		23445A9	I.C. DEC PROM 512 x 4 T.S.	1	E47
55		23446A9	I.C. DEC PROM 512 x 4 T.S.	1	E46
56		23010B1	I.C. DEC PROM 256 x 8 T.S.	1	E75
57		23011B1	I.C. DEC PROM 256 x 8 T.S.	1	E68
58		1300365	RESISTOR, 1K, 1/4W, 5%	1	R5

E.C.O. NO.

TITLE	11/34 FLOATING POINT OPTION	ASSY NO.	D-UA-M8267-0-0	
SIZE	B	CODE	PL	
NUMBER	M8267-0-0	REV.	C	
SHEET	3	OF	3	

INSERTION PARTS LIST DATA BASE REV



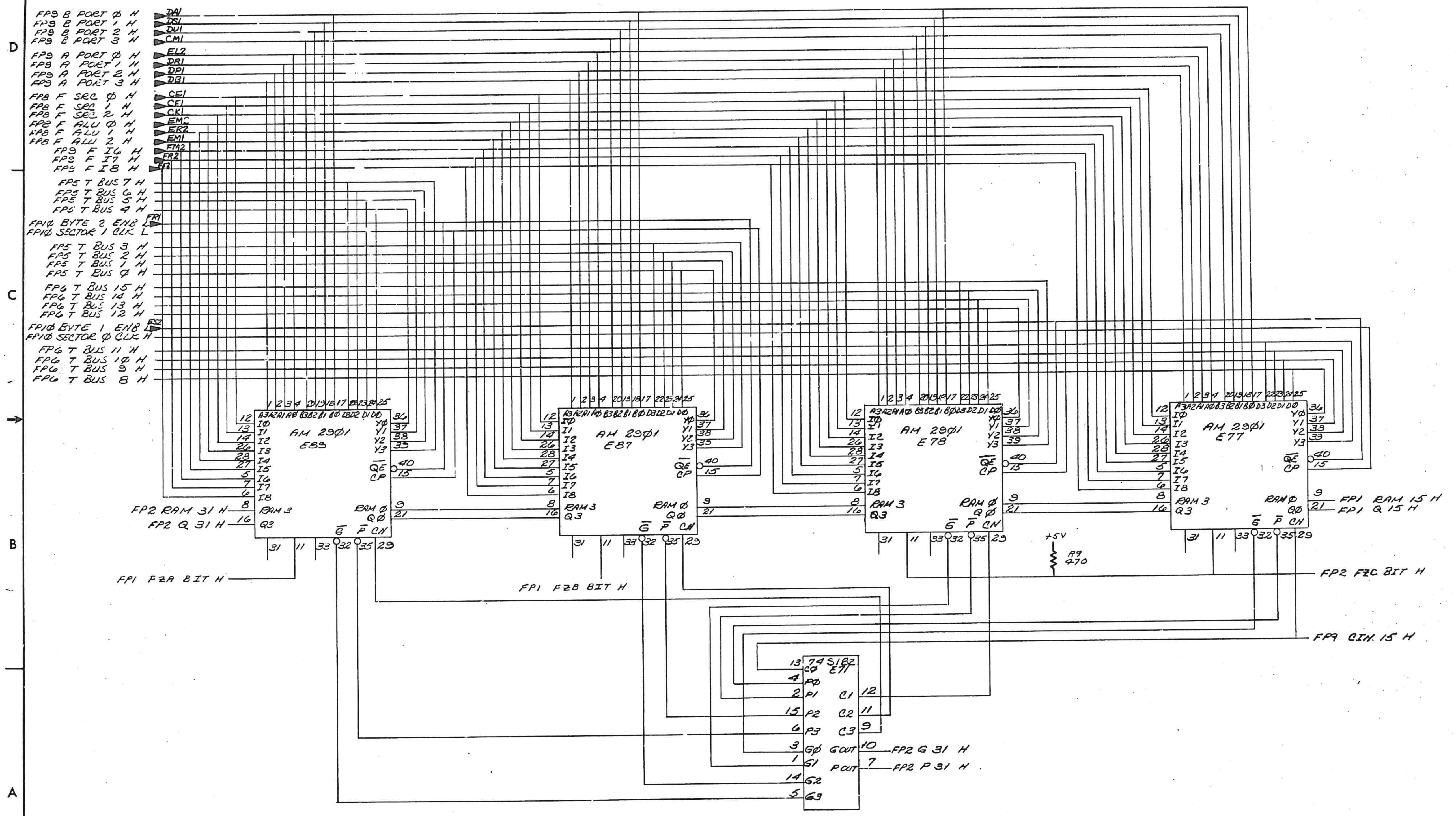
(BYTES 7 AND 0)

REVISIONS		
CHK	CHANGE NO.	REV.
G.C.J.	M8267-00001	A
D. Chiasson 20 Jan. 77		
B. PRATT		
Robert Pratt 25-Jan-77		
	M8267-00002	B
P. Groese 9 MAY 77		
B. PRATT		
Bob Pratt 5/26/77		
	M8267-00003	C
M. SULLIVAN		
M. Sullivan		

DEC FORM NO.
DRD 11A

DRN. P. LENNON		FIRST USED ON PDP 11/34		digital
CHK'D		TITLE FLOATING POINT PROCESSOR (FPI)		
ENG. R B Pratt	11-2-76			
PROJ. ENG. R B Pratt	11-2-76			
PROD. R B Konig	3 Nov 76			
NEXT HIGHER ASSY.		SIZE D	CODE CS	NUMBER M8267-0-1
SCALE				REV. C
SHEET	1 OF 10	DIST.		

D CS M8267-0-1 C



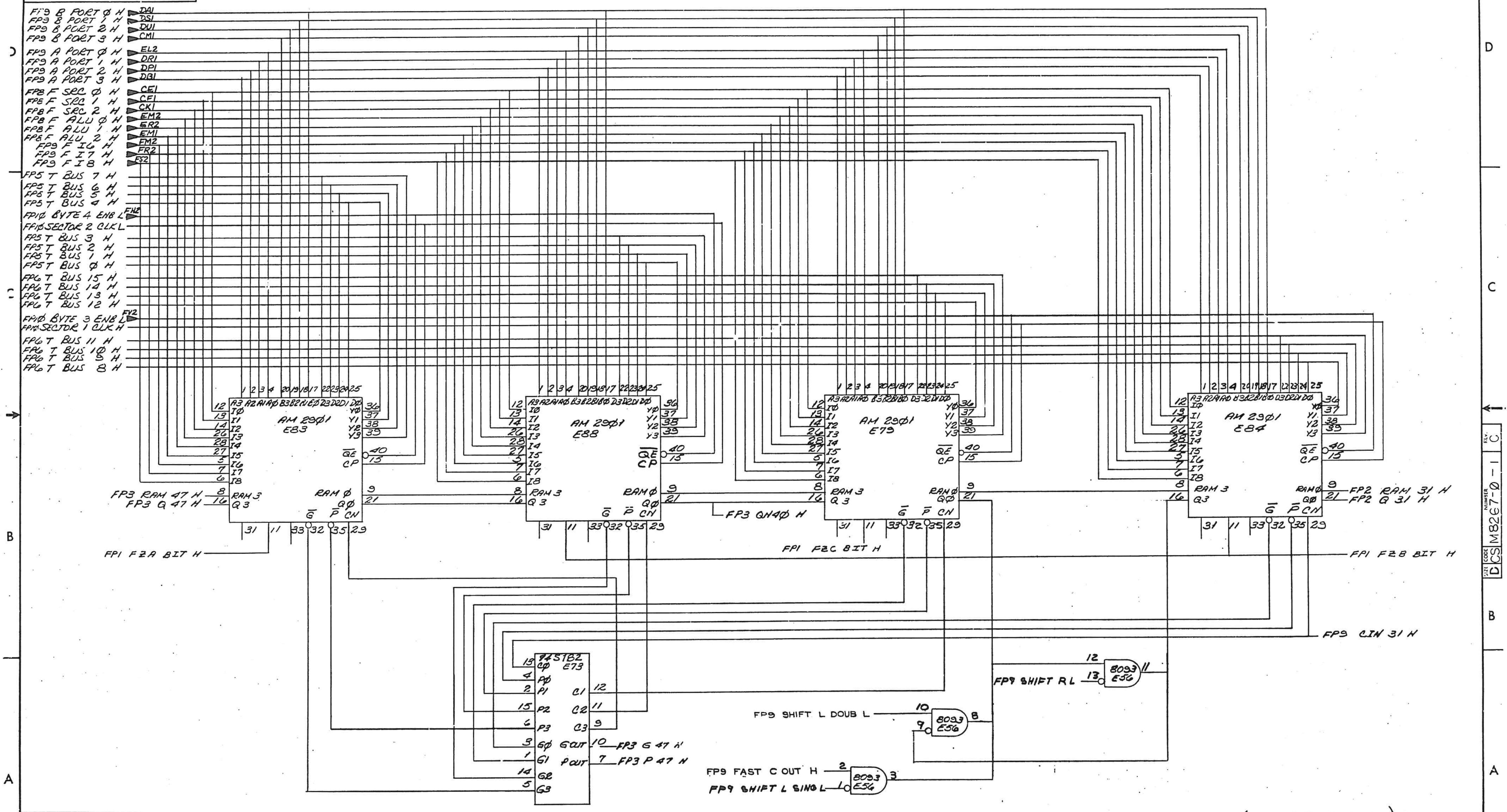
(BYTES 1 AND 2)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE FLOATING POINT
PROCESSOR (FP2)

SIZE D
CODE CS
NUMBER M8267-0-1
REV. C
SCALE
SHEET 2 OF 10
DIST.

DEC FORM NO. DRD 138



(BYTES 3 AND 4)

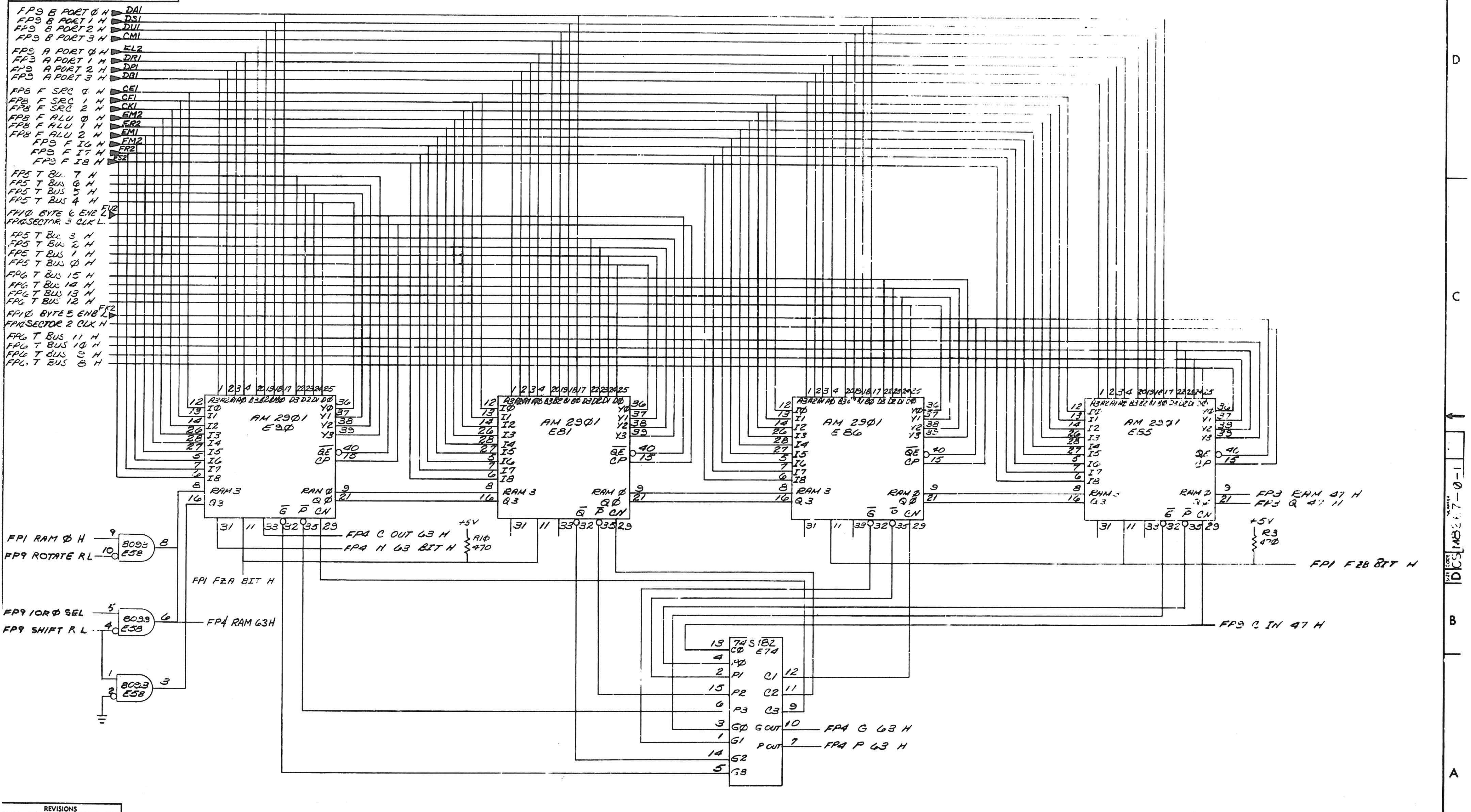
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE FLOATING POINT PROCESSOR (FP3)

SIZE	CODE	NUMBER	REV.
D	CS	M8267-0-1	C

SCALE —/—
SHEET 3 OF 10
DIST.

DEC FORM NO. DRD 138



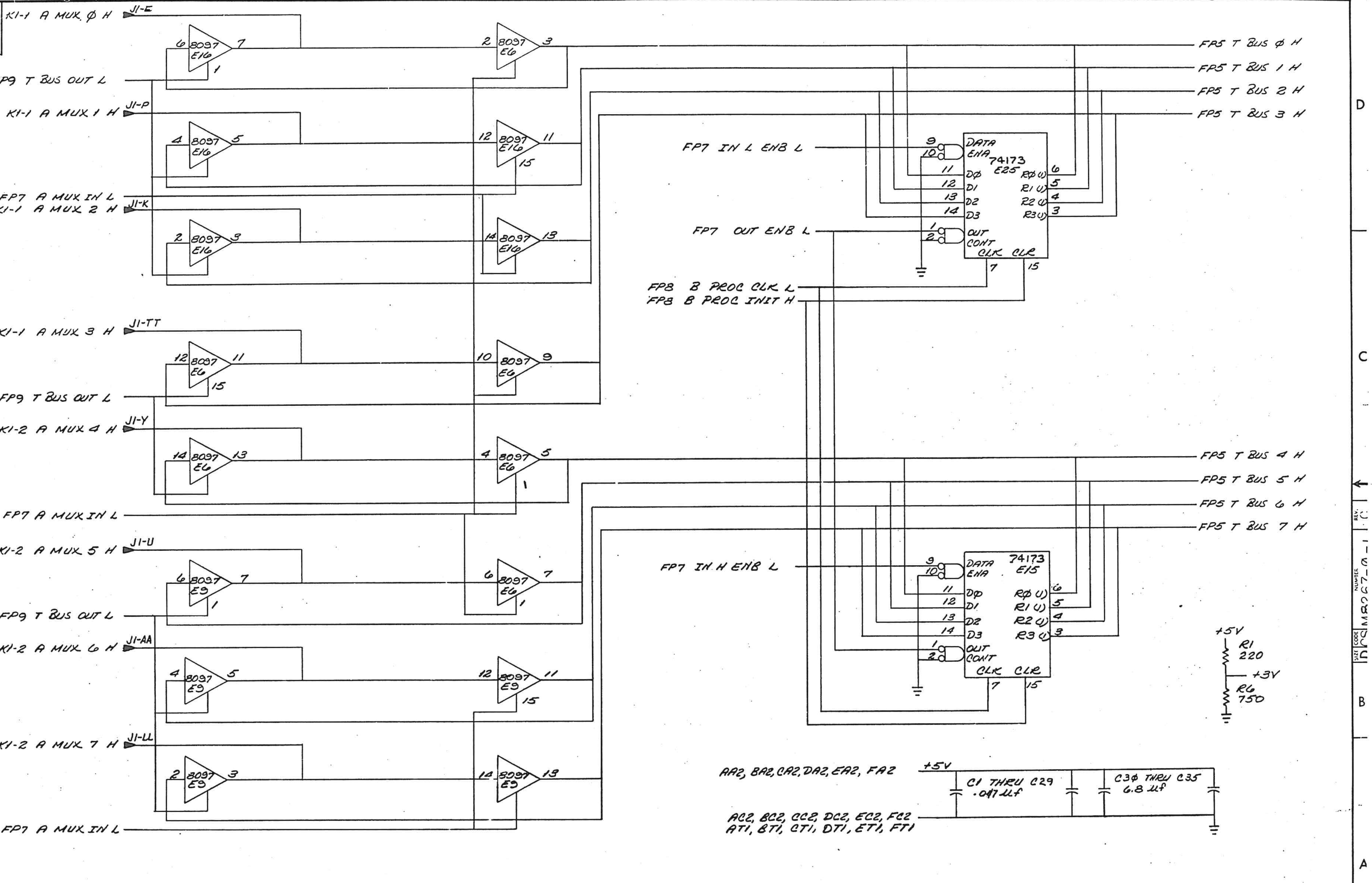
(BYTES 5 AND 6)

REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO.
DRD 130

TITLE FLOATING POINT PROCESSOR (FP4)
SIZE D
CODE CS
NUMBER M8267-0-1
REV. C
SCALE
SHEET 4 OF 10
DIST.

D CS M8267-0-1



(LOW BYTE BUFFER)

REVISIONS		
CHK	CHANGE NO.	REV.

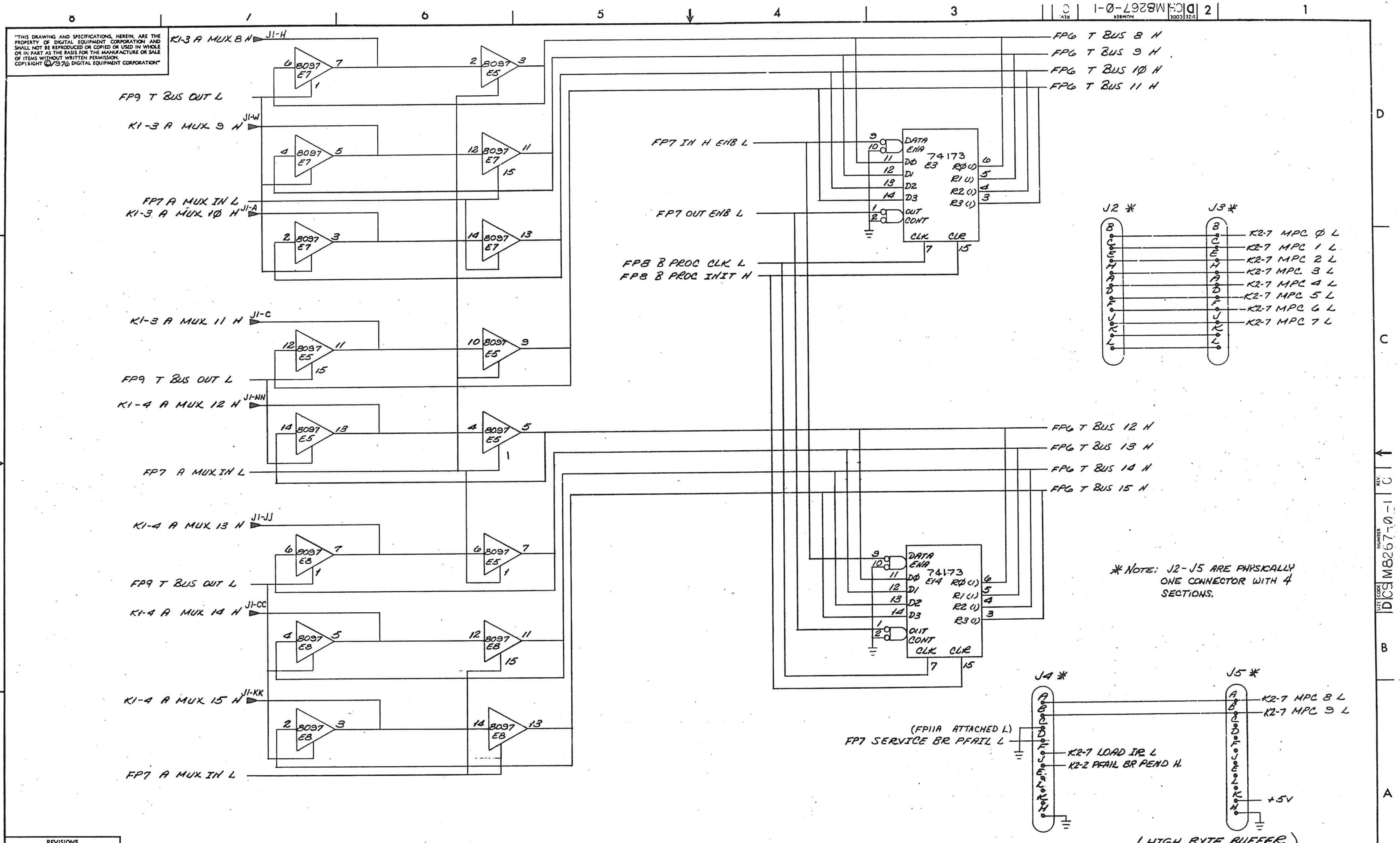
TITLE FLOATING POINT PROCESSOR (FP5)

SIZE D CODE CS NUMBER M8267-0 -1 REV. C

SCALE —— SHEET 5 OF 10

DIST.

DEC FORM NO. DRD 138



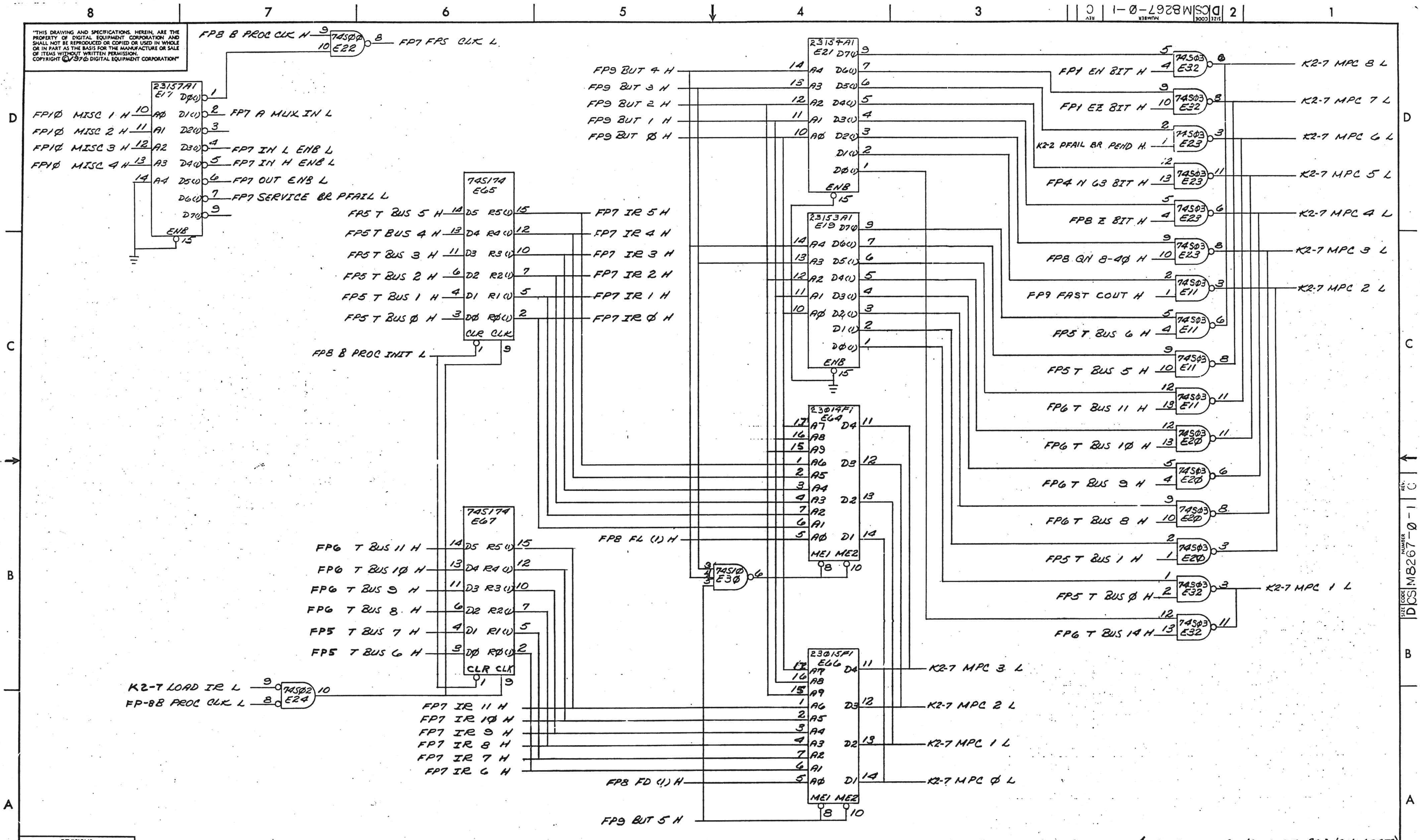
* NOTE: J2-J5 ARE PHYSICALLY ONE CONNECTOR WITH 4 SECTIONS.

(HIGH BYTE BUFFER)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE FLOATING POINT PROCESSOR (FP6)
SIZE D CODE CS NUMBER M8267-0-1 REV. C
SCALE —/— SHEET 6 OF 10
DIST.

DEC FORM NO. DRD 138



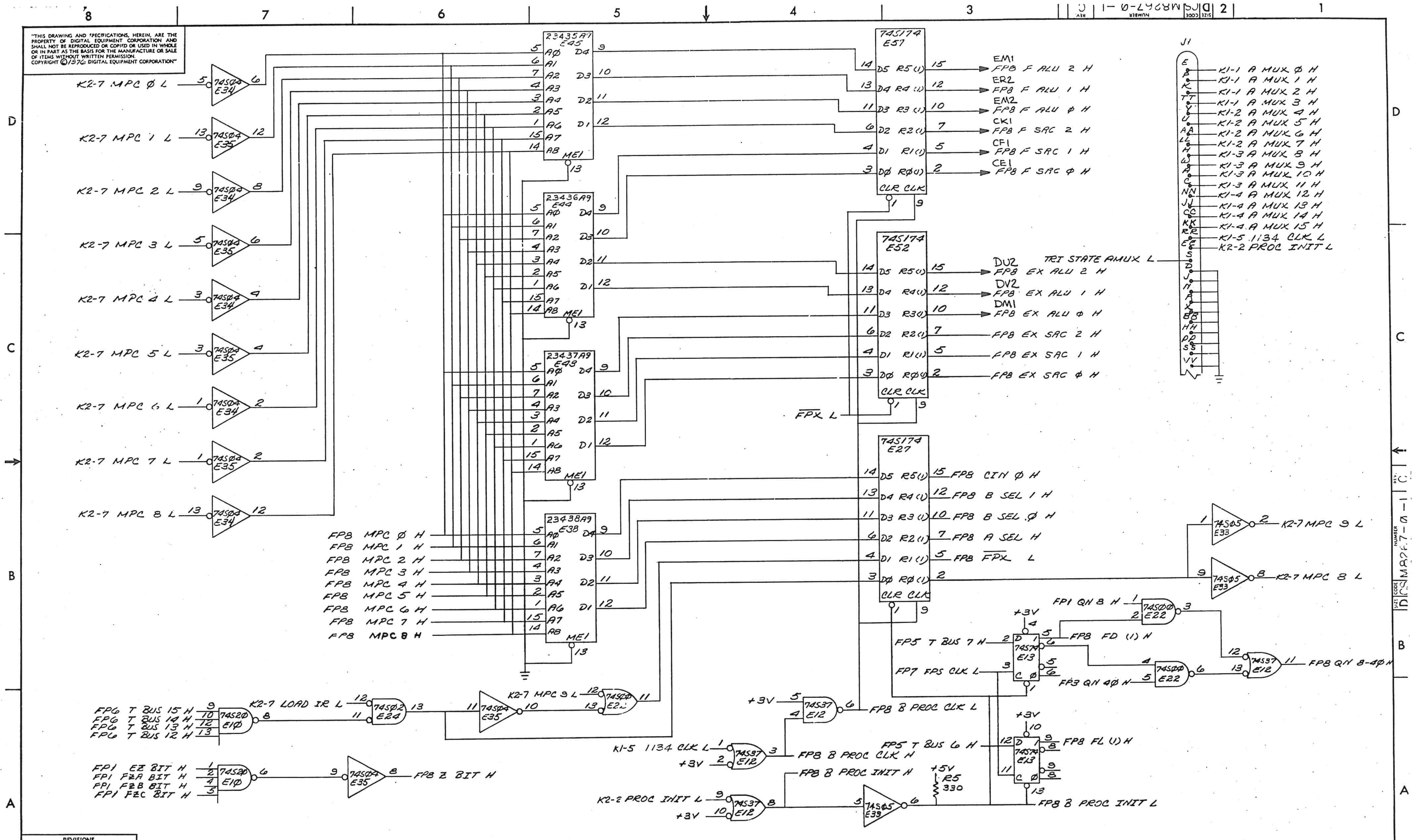
(IR REGISTER & DECODE, BRANCH LOGIC)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE FLOATING POINT PROCESSOR (FP7)

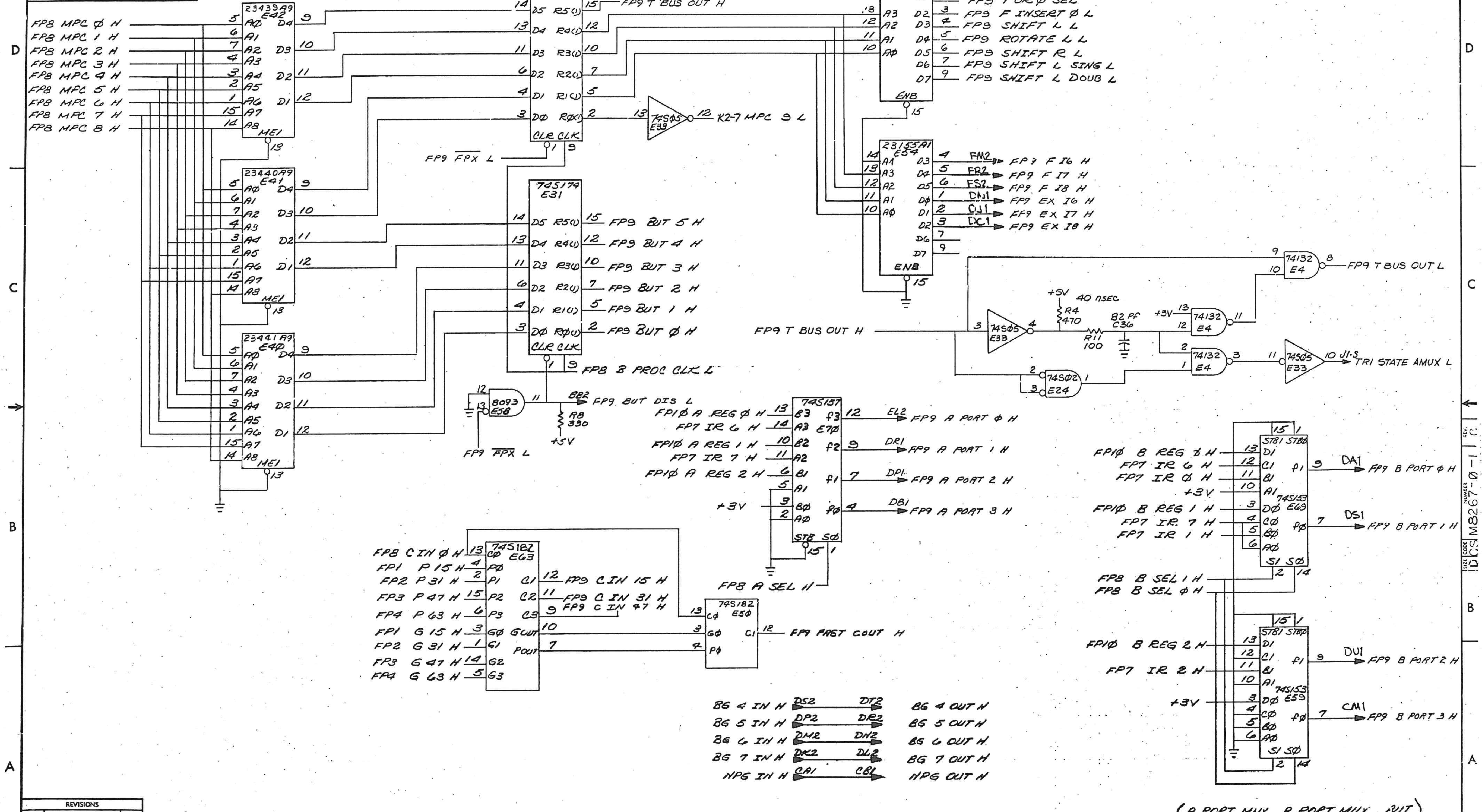
SIZE	CODE	NUMBER	REV.
D	CS	M8267-0-1	C

SCALE —/— SHEET 7 OF 10 DIST.



REVISIONS		
CHK	CHANGE NO.	REV.

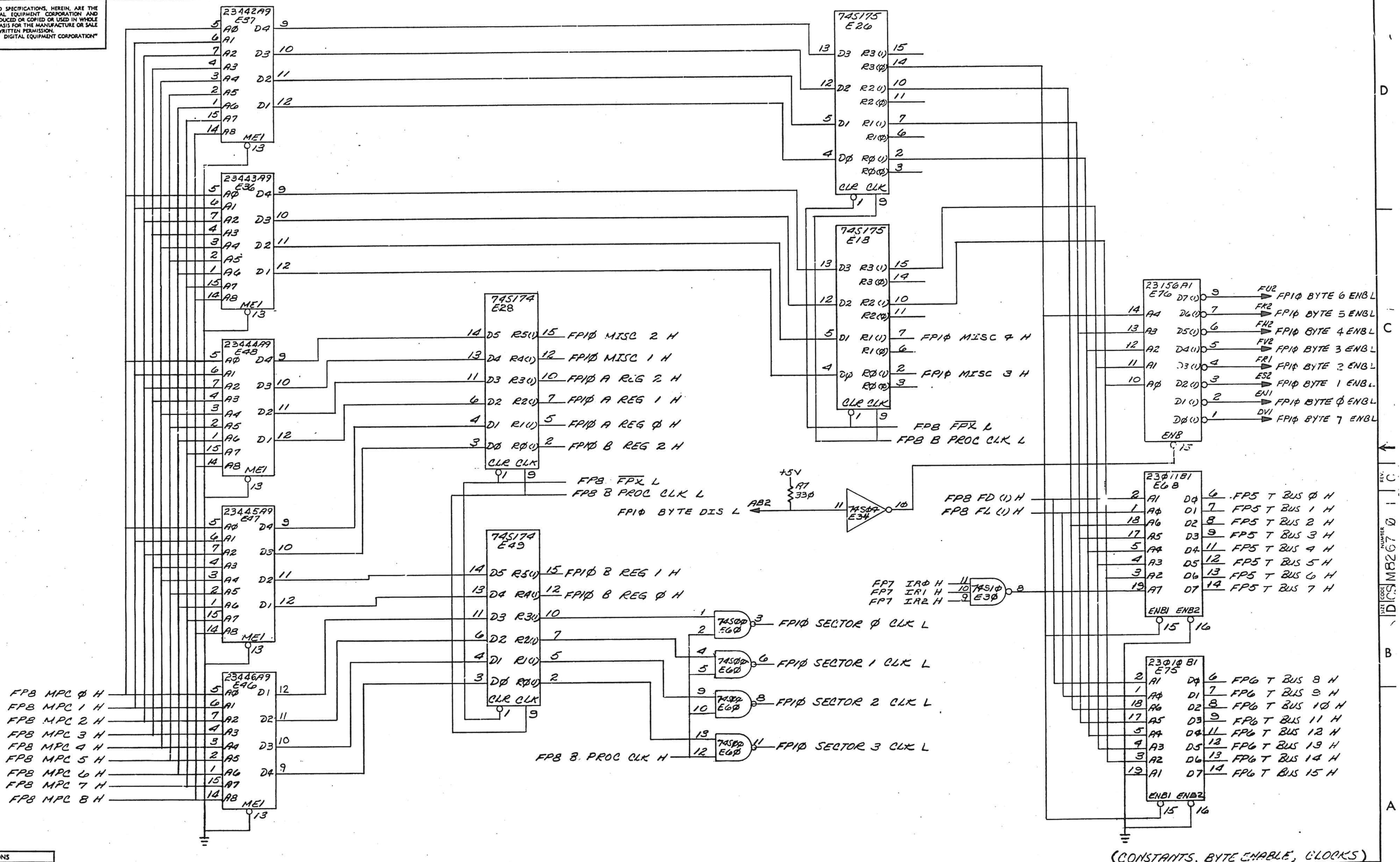
TITLE FLOATING POINT PROCESSOR (FP8)
SIZE D
CODE CS
NUMBER M8267-0--1
REV. C
SCALE
SHEET 8 OF 10
DIST.



(A PORT MUX, B PORT MUX, BUT)

REVISIONS		
CHK	CHANGE NO.	REV.

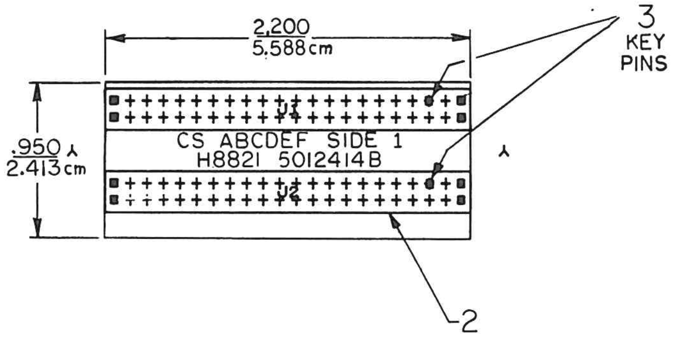
TITLE FLOATING POINT PROCESSOR (FP9)
SIZE D CODE CS NUMBER M8267-0-1 REV. C
SCALE — SHEET 9 OF 10 DIST.



(CONSTANTS, BYTE ENABLE, CLOCKS)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE FLOATING POINT PROCESSOR (FP10)
SIZE D
CODE CS
NUMBER M8267-0-1
REV. C
SCALE
SHEET 10 OF 10
DIST.



NOTES:

CHK	CHANGE NO	REV

ETCH REV. B
P.C. DESIGN DATA BASE REV. B

SIGNATURES	DATE
DRN. F MULLIGAN	10/27/76
CHK'D. F SEIDMAN	12-3-76
ENG. R Barry	3DEC76
PROJ.ENG. R Barry	3DEC76
PROD.	6Dec76
SCALE 2/1	
SHT. 1 OF 3	

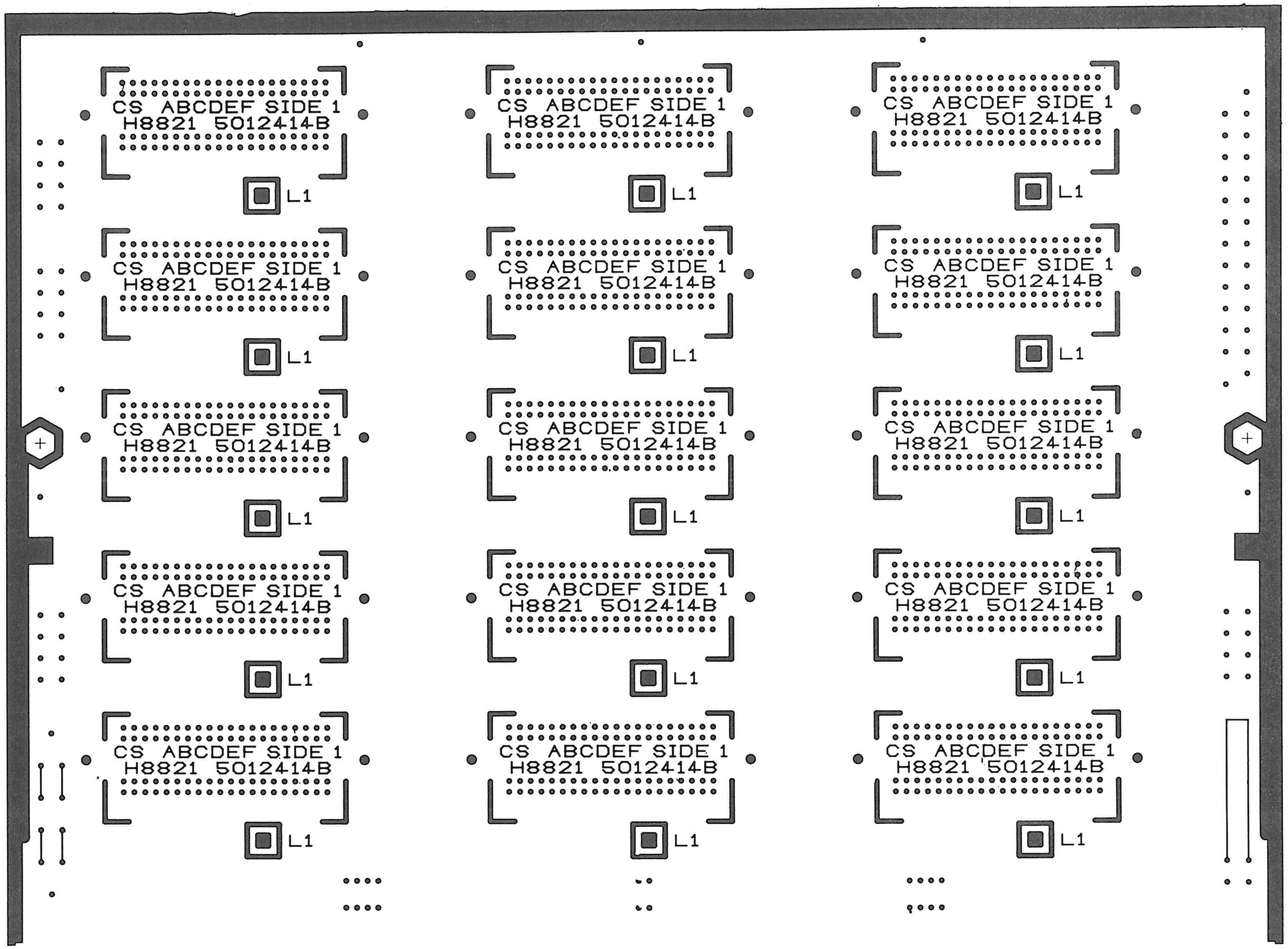
digital

TITLE 40 PIN INTERCONNECT BOARD

SIZE	CODE	NUMBER	REV
D	UA	H 8821-0-0	A

NEXT HIGHER ASSY. B-DD-H8821-0

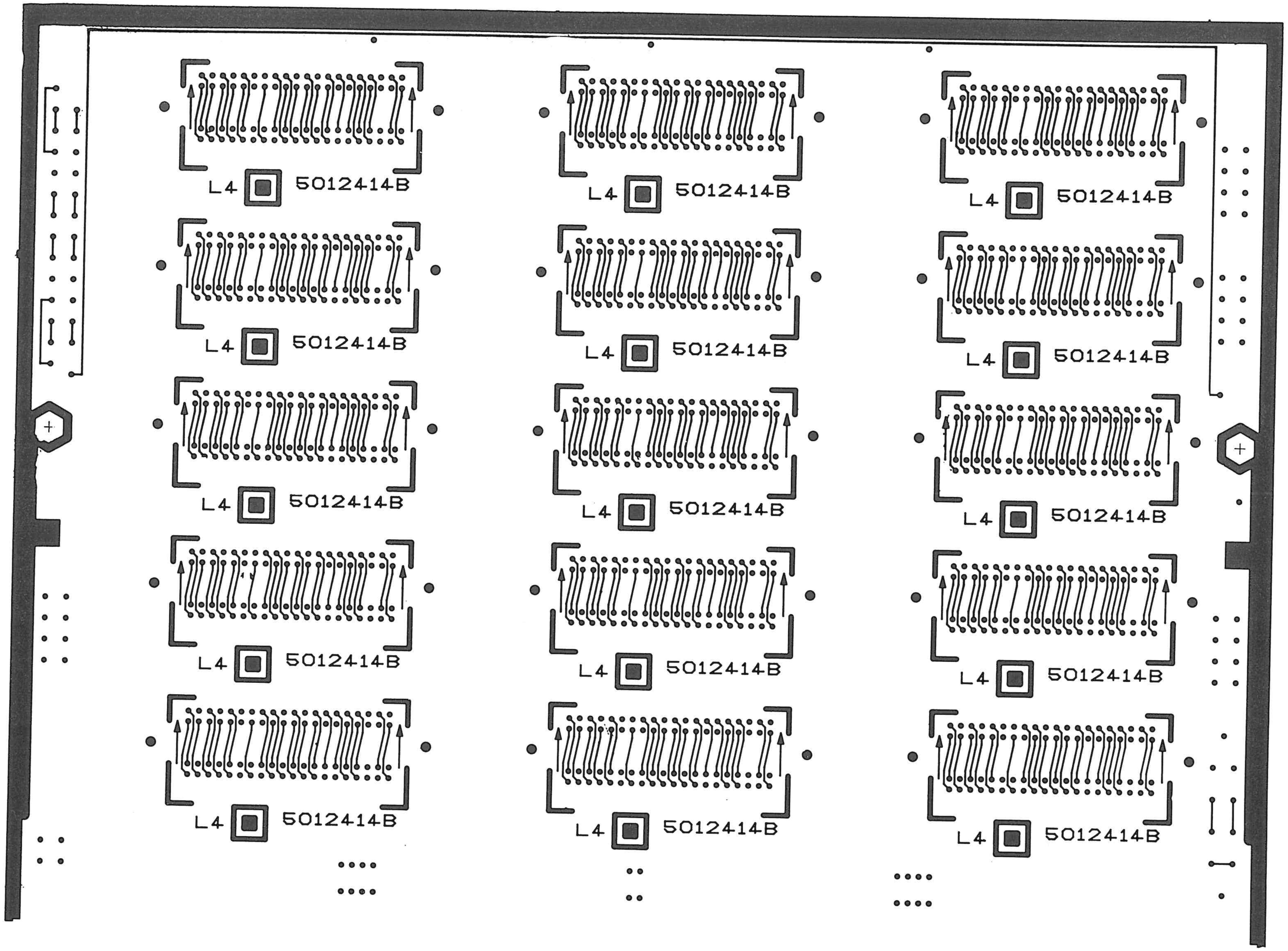
MS# 60955



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
40 PIN INTERCONNECT BOARD	D	UA	H8821-0-0	A
SCALE 2/1 SHEET 2 OF 3	DIST.			

SIZE D CODE UA NUMBER H8821-0-0 REV. A



SIZE D CODE UA NUMBER H8821-0-0 REV. A

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
40 PIN INTERCONNECT BOARD	D	UA	H8821-0-0	A
SCALE 2/1 SHEET 3 OF 3	DIST.			

DEC FORM NO.
DRD 157

DIGITAL EQUIPMENT CORPORATION

PARTS LIST

MADE BY F MULLIGAN
DATE 8/3/76
CHECKED F. Seedman
DATE 8/9/76
SECTION
ENG R. Barry 3DEC76
DATE
PROD
DATE 6Dec76
ISSUED SECTION

QUANTITY / VARIATION

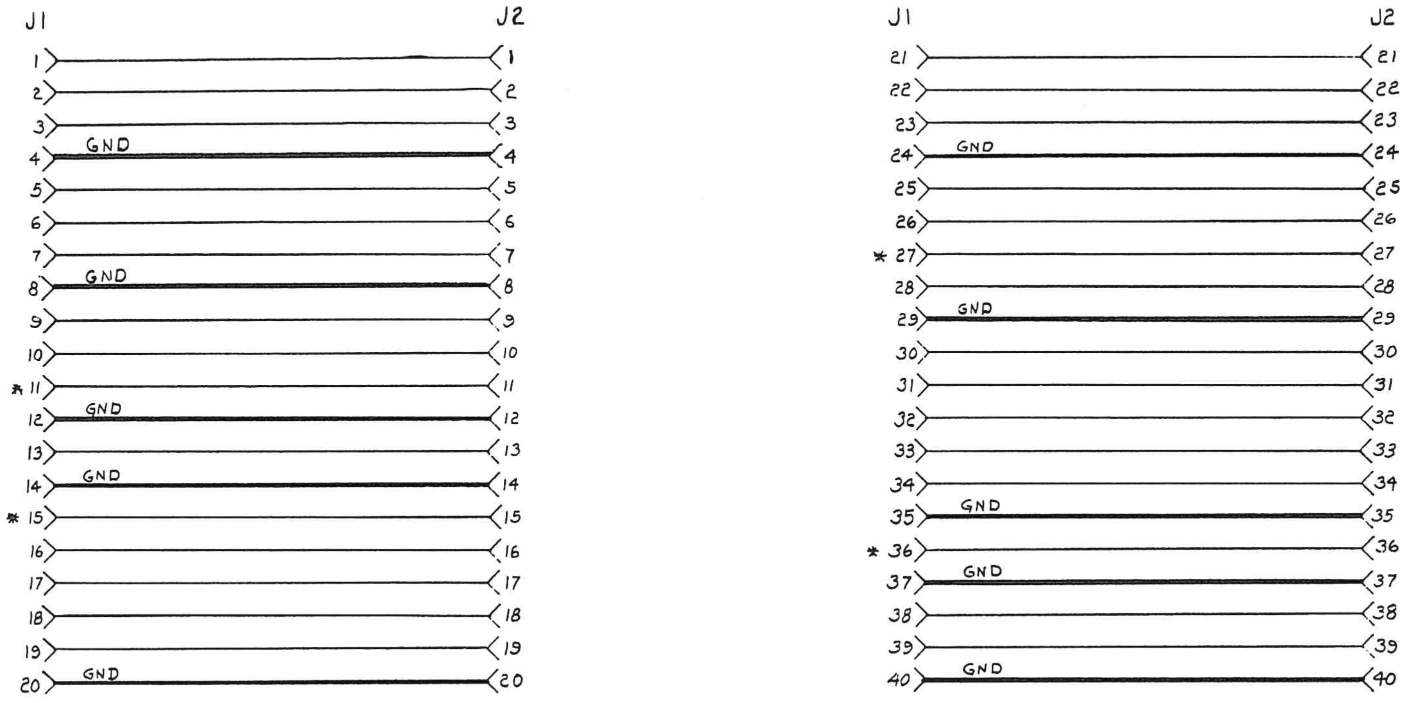
NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	H8821-0-0	REF DESIGNATION
1	D-MD-5012414-0-0	5012414	ETCH BOARD	1	
2		12-13508-01	CONNECTOR, 44 PIN REWORKED	2	J1-J2
3		12-13508-03	KEY PINS	2	

E.C.O. NO.

TITLE 40 PIN INTERCONNECT BOARD
ASSY NO. D-UA-H8821-0-0
SHEET 1 OF 1
SIZE B
CODE PL
NUMBER H8821-0-0
REV. A
INSERTION PARTS LIST DATA BASE REV —//—

LN-01140A-16-R276(325) DRB 125



NOTES:

1. * DESIGNATES CONDUCTORS TO BE LOCATED ON LAYER 2
2. GND WILL BE ON LAYER 3 & REMAINING ETCH ON LAYER 4

3. LAYER 1 (SIDE 1) WILL BE FREE OF ALL CIRCUITRY

REVISIONS	CHANGE NO.	REV.	CHK

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

FIRST USED ON OPTION/MODEL

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES

DECIMALS	ANGLES
.xxx = .005 .xx = .02 .x = .1	±0° 30'

REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY √

		DATE
DRN.	F. MULLIGAN	8/3/76
CHK'D.	L. Seidman	8/4/76
ENG.	R Barry	3 DEC 76
PROJ. ENG.	R Barry	3 DEC 76
PROD.		6 DEC 76

MATERIAL

NEXT HIGHER ASSY.

FINISH

SCALE NA
SHEET 1 OF 1

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

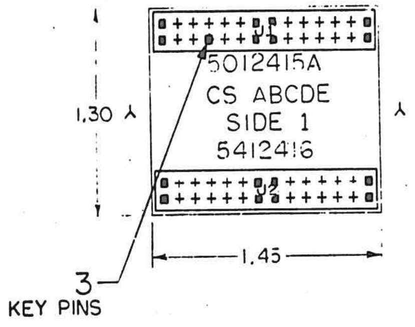
TITLE
40 PIN
INTERCONNECT BOARD

SIZE	CODE	NUMBER	REV.
C	CS	H8821-0-1	A

DIST.

SIZE C CODE CS NUMBER H8821-0-1 REV. A

D UA 5412416-0-0 *



NOTES:

CHK	CHANGE NO	REV

ETCH REV. A
P.C. DESIGN DATA BASE REV. A

SIGNATURES	DATE
DRN. F. MULLIGAN	5/2/76
CHK'D. F. SEIDMAN	8/4/76
ENG. R Barry	3 Dec 76
PROJ. ENG. R Barry	3 Dec 76
PROD. R B	6 Dec 76
SCALE 2/1	
SHT. 1 OF 3	

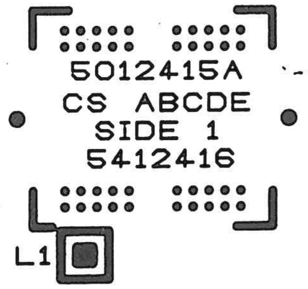
digital

TITLE MODULE INTERCONNECT BOARD

SIZE	CODE	NUMBER	REV
D	UA	5412416 0-0	*

NEXT HIGHER ASSY. B-DD-5412416-0

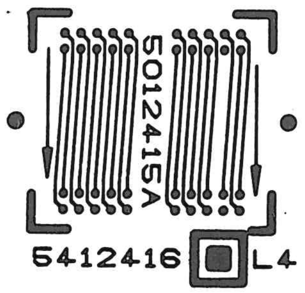
1 MS#60956



REVISIONS

CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
MODULE INTERCONNECT BOARD	D	UA	5412416-0-0	*
SCALE 2/1 SHEET 2 OF 3	DIST.			



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
MODULE INTERCONNECT BOARD	D	UA	5412416-0-0	*
SCALE 2/1	SHEET 3 OF 3	DIST.		

DIGITAL EQUIPMENT CORPORATION

PARTS LIST

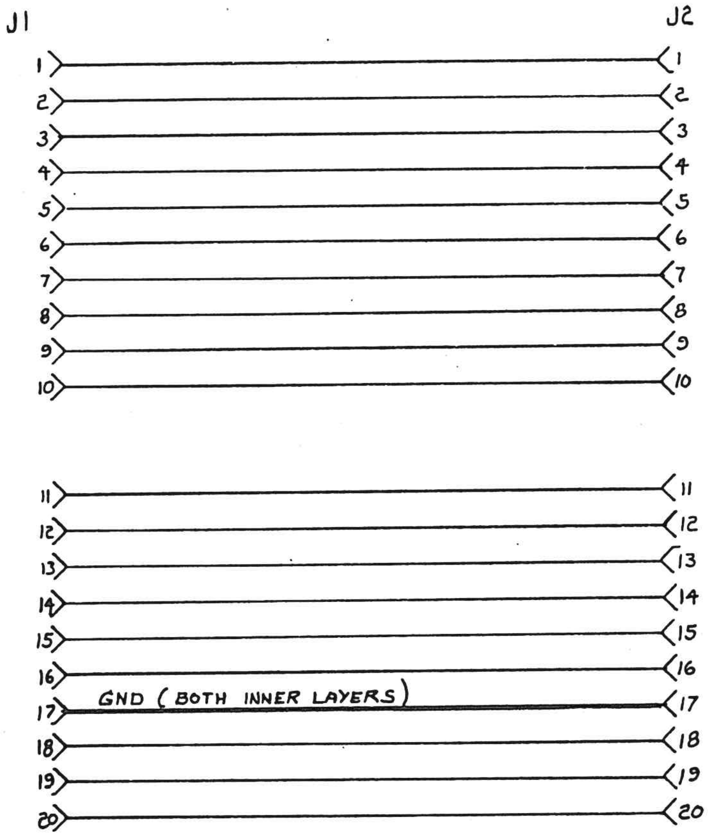
MADE BY F. MULLIGAN DATE 8 AUG 76	CHECKED F SEIDMAN DATE 9 AUG 76	SECTION
ENG R.Barry DATE 3 DEC 76	PROD RB King DATE 6 Dec 76	ISSUED SECTION

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION												REF DESIGNATION
				5412416-0-0												
1	D-MD-5012415-0-0	5012415	ETCH BOARD	1												
2		12-13508-00	CONNECTOR. 28 PIN REWORKED	2												J1–J2
3		12-13508-03	KEY PINS	1												

E.C.O. NO.

TITLE MODULE INTERCONNECT BOARD	ASSY NO. D-UA-5412416-0 0	SIZE B	CODE PL	NUMBER 5412416-0-0	REV. *
	SHEET 1 OF 1	INSERTION PARTS LIST DATA BASE REV -//-			



NOTE :
1 – ALL ETCH ON SIDE 2 ONLY EXCEPT GND PLANES.

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST			

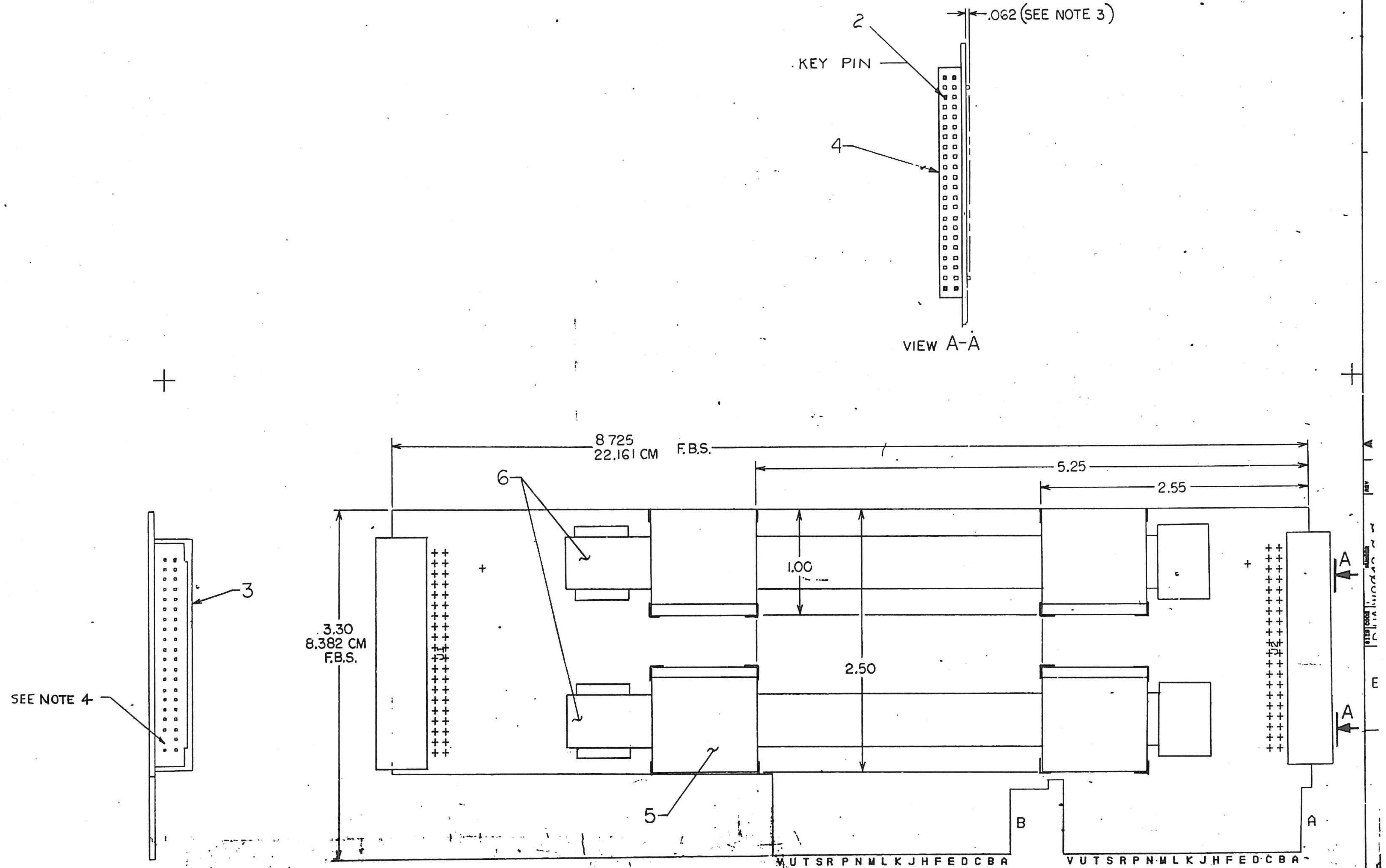
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN. F. MULLIGAN	DATE 8/2/76	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
DECIMALS: .xxx = .005 .xx = .02 .x = .1 — ANGLES: ±0° 30′	CHK'D Seidman	DATE 8/4/76	
	ENG R Barry	DATE 3 Dec 76	TITLE MODULE INTERCONNECT BOARD
	PROJ ENG. R Barry	DATE 3 Dec 76	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY √	PROD	DATE 6 Dec 76	
MATERIAL	NEXT HIGHER ASSY.		SIZE C — CODE CS — NUMBER 5412416-Ø-1 — REV. *
FINISH	SCALE NA SHEET 1 OF 1		DIST.

REV.	CHANGE NO.	CHK

REVISIONS

DEC FORM NO.
DRC 111

COMPONENT SIDE VIEW



NOTES:

1. THIS MODULE CAN BE USED AS A JUMPER CONTINUITY CARD.
2. ITEM 6 CABLES ARE USED FOR MAINTENANCE PURPOSES ON THE FP11A OPTIONS. SEE E-UA-FP11A-0-0.
3. TRIM ITEM 4 LEADS AFTER MOUNTING.
4. REMOVE PIN INDICATED. (TO REMOVE PIN, STRAIGHTEN BACK END AND PULL OUT FROM FRONT OF CONNECTOR.)
5. USE CABLE CLAMPS ITEM 5 TO STORE CABLES ITEM 6 WHEN NOT IN USE.

CHK	CHANGE NO	REV
	W9042-00001	C
	Paul L	
	R. BERRY	
	W9042 2	C
	STEVE KITTLE	14 MAR 78
	D. BARRY	
	R Barry	
	W9042-3	D
	7/21/78	
J.	MERCURI	
	J. Mercuri	29 Jun 79

ETCH REV. D-P1
P.C. DESIGN DATA BASE REV. D-P1

SIGNATURES	DATE
DRN. F. MULLIGAN	11/8/76
CHK'D. R. PUZZO	11/9/76
ENG. R. Barry	1 DEC 76
PROJ. ENG. R Barry	1 DEC 76
PROD. R B	1 Dec 76
SCALE 2/1	
SHT. 1 OF 3	
NEXT HIGHER ASSY. B-DD-W9042-0	

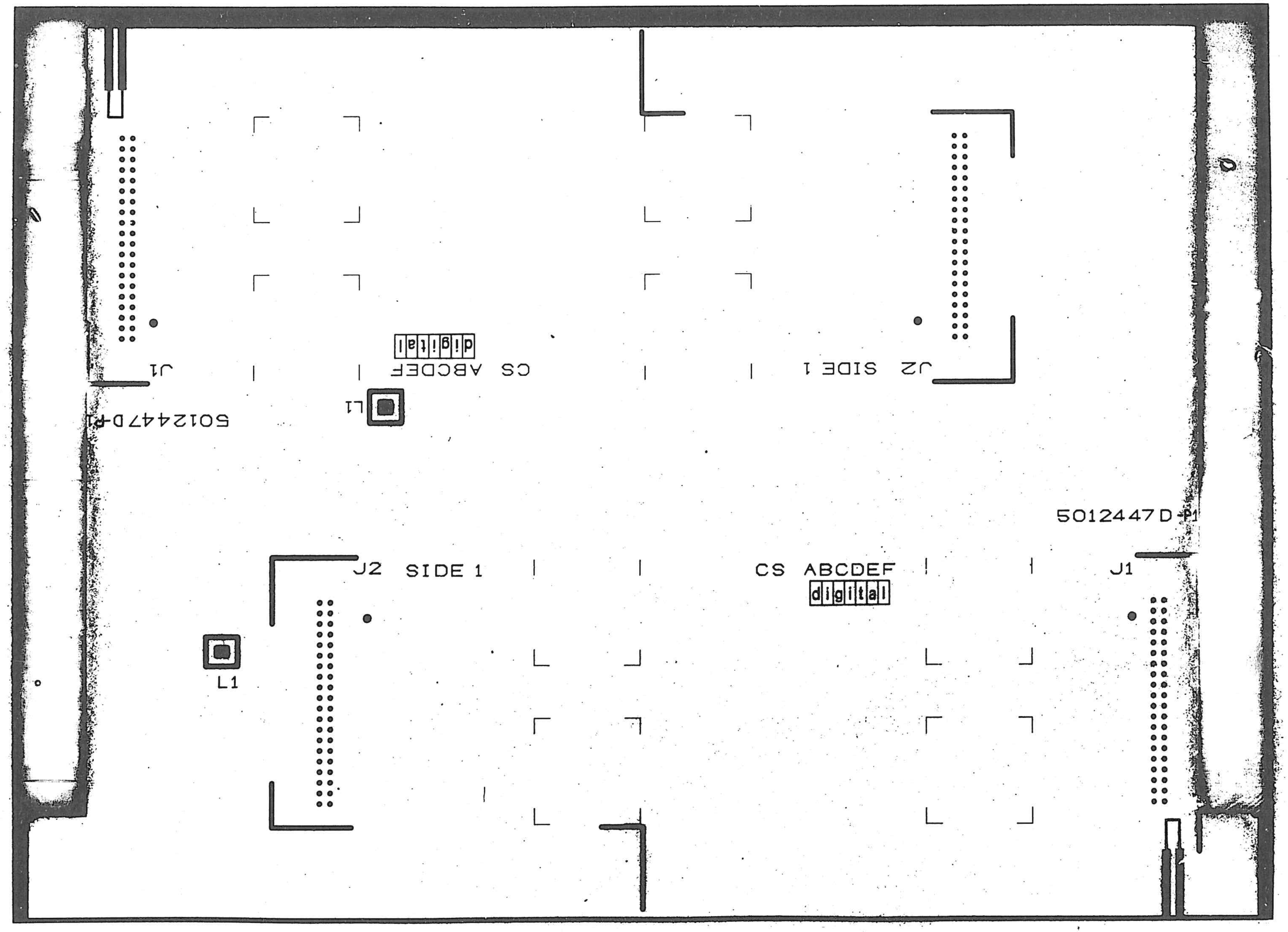
digital

TITLE
EXTENDER BOARD ASSEMBLY

SIZE	CODE	NUMBER	REV
D	UA	W9042-0-0	D

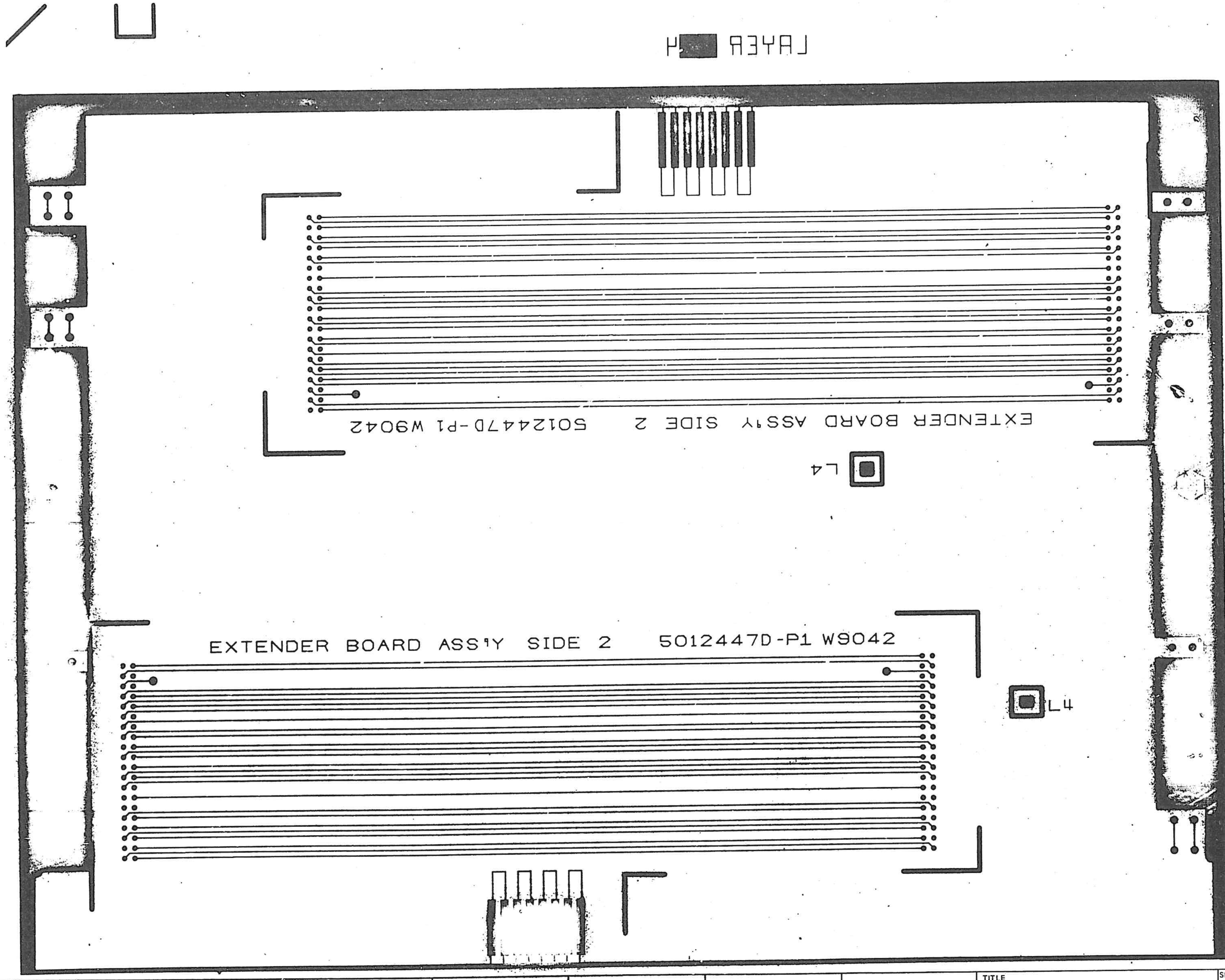
MS# 25-149

LAYER 1



REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV.
EXTENDER BD. ASSY.	D	UA	W9042-0-0	D
SCALE 2:1 / SHEET 2 OF 3	DIST.			


LAYER 4
EXTENDER BOARD ASS'Y SIDE 2 5012447D-P1 W9042
L4
EXTENDER BOARD ASS'Y SIDE 2 5012447D-P1 W9042
L4

REVISIONS		
CHK	CHANGE NO	REV.

TITLE	SIZE	CODE	NUMBER	REV.
EXTENDER BD. ASSY.	D	UA	W9042-0-0	D
SCALE 2:1	SHEET 3 OF 3	DIST.		

```
AUTOMATED BY  PRTLST.3H(23)                        P A R T S   L I S T                                           SHEET    1 OF    1

LINE ITEM  DOCUMENT NUMBER        PART NUMBER      DESCRIPTION                              QTY REFERENCE DESIGNATOR


   1    1  D-MD-5012447-0-0       5012447-00      W9042                                      1
   2    2                         1213508-03      CONN                KEYING PLUG            1
   3    3                         1213506-01      HEADER      40POS RT ANGLE W/3 SI          1   J2
   4    4                         1213947-00      SOCKET.100 40POS RT ANGLE                  1   J1
   5    5                         9009636-00      CLAMP, CABLE, FOR FLAT CABLE               4
   6    6                         7011411-1D      3M CABLE FOR KY11-LB                       2










------------------------------------------------------------------------------------------------------------------------------------
!    REVISION HISTORY     !BASIC PART NO:   W9042   !                          !                !      !   !   !   !   !   !   !   !
!_________________________!_________________________!DRN:       F.MULLIGAN     !DATE: 13-MAR-78 !      ! D ! I ! G ! I ! T ! A ! L !
!ENG!   ECO NUMBER   !REV !SECTION  1 OF  1         !__________________________!________________!______!___!___!___!___!___!___!___!
!___!________________!____!_________________________!                          !                !TITLE          PARTS LIST         !
!---! INITIAL        !B   !SECTION.VARIATION INDEX  !CHK'D:     F.MELANSON     !DATE: 13-MAR-78 !                                  !
!WH !00002           !C   !  [1] 00                 !__________________________!________________! FP11A EXTENDER BOARD ASSY        !
!RB !00003           !D   !  [2]                    !                          !                !                                  !
!   !                !    !  [3]                    !DES.ENG:   R.BARRY        !DATE: 13-MAR-78 !                                  !
!   !                !    !  [4]                    !__________________________!________________!__________________________________!
!   !                !    !  [5]                    !                          !                !            DOCUMENT NUMBER       !
!   !                !    !  [6]                    !RESP.ENG.: R.BARRY        !DATE: 13-MAR-78 !__________________________________!
!   !                !    !  [7]                    !__________________________!________________!SIZE!CODE! NUMBER          ! REV  !
!   !                !    !  [8]                    !                          !                !    !    !                 !      !
!   !                !    !  [9]                    !MFG.ENG.:  R.KING         !DATE: 13-MAR-78 ! K  ! PL ! W9042-0-DBP     ! D    !
!   !                !    ! [10]                    !__________________________!________________!____!____!_________________!______!
!   !                !    ! [11]                    !ASSEMBLY NUMBER:          !                          ! FILE NAME:      !EDIT #!
!   !                !    ! [12]                    !D-UA-W9042-0-0            !                          ! W9042.PLS       !     1!
!___!________________!____!_________________________!__________________________!__________________________!_________________!______!
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!__________________________________________________________________________________________________________________________________!
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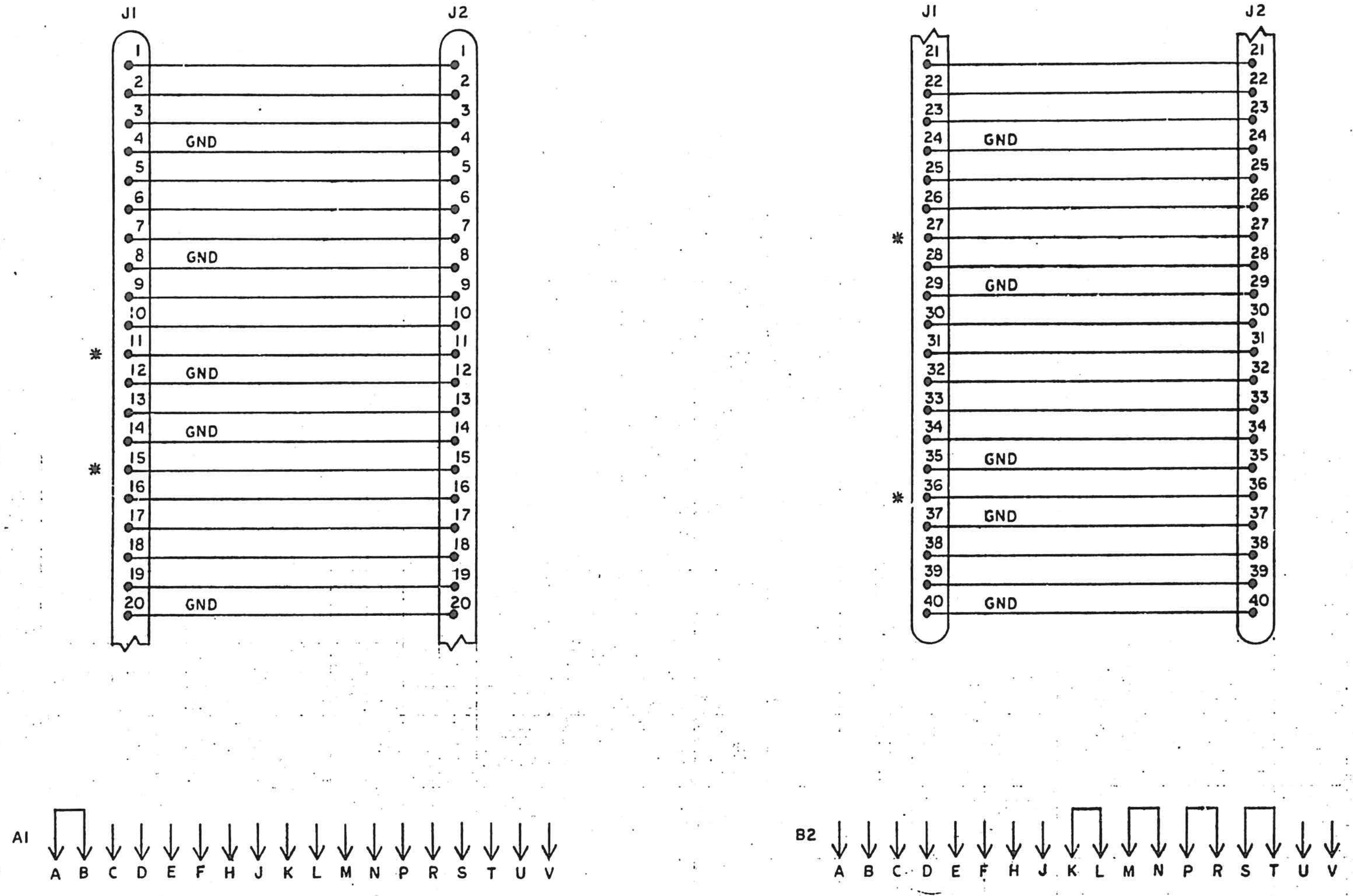


NOTE: 1. (*) DESIGNATES ETCH CONNECTION ON LAYER 2

REVISIONS

CHK.	CHANGE NO.	REV.
	W9042-00001	B
	D. MOBERLY	5-8-77
	W9042-00002	C
	STEVE KYLE 14 MAR 78	
	D.BARRY	
	W9042-00003	D
	9 JUNE 78	
	J. MENOUKI	
	29 JAN 79	

DEC FORM NO. DED 102-D

DRN. J. Vincent	8-25-76	FIRST USED ON
CHK'D	8-23-76	
ENG. R Barry	1 DEC 76	TITLE EXTENDER BOARD ASSEMBLY
PROJ. ENG. R Barry	1 Dec 76	
PROD. RB King	1 Dec 76	
NEXT HIGHER ASSY.		

digital

SIZE	CODE	NUMBER	REV.
D	CS	W9042-0-1	C

SCALE —//—
SHEET 1 OF 1
DIST.

D CS W9042-0-1

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

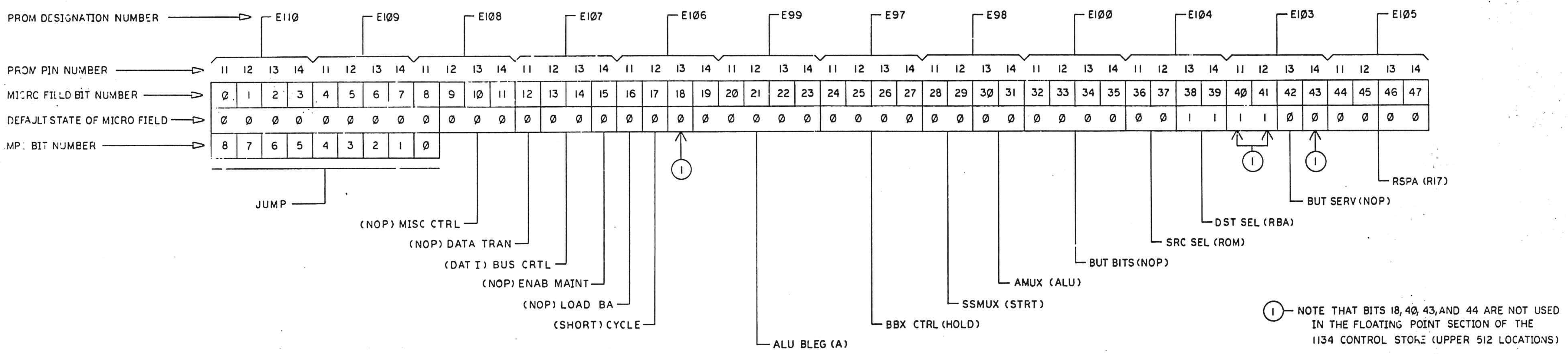
MADE BY D. HEALY	CHECKED D. HEALY	SECTION 1
DATE 10 NOV. 76	DATE 10 NOV. 76	
ENG	PROD	ISSUED SECT. 1
DATE 12-20-76	DATE 12-21-76	

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION FP11-A
	MPC0189	FP11-A FIELD MAINTENANCE PRINT SET	1
	EK-FP11-A-TM-PRE	FP11-A FLOATING POINT MANUAL	1
	ZJ232-RB	SOFTWARE LIBRARY KIT (PAPER TAPE)	1

TITLE FP11-A SHIPPING LIST	ASSY NO. NONE	SIZE A	CODE PL	NUMBER FP11-A-3	REV.	ECO NO.
	SHEET 1 OF 1	DIST.				

DEC FORM DEC 16-(325)-1031-N870
DRA 110

FP11-A CONTROL WORD (WITHIN M8266)



PROM DESIGNATION NUMBER	E110				E109				E108			
PROM PIN NUMBER	11	12	13	14	11	12	13	14	11	12	13	14
MICRO FIELD BIT NUMBER	0	1	2	3	4	5	6	7	8	9	10	11
DEFAULT STATE OF MICRO FIELD	0	0	0	0	0	0	0	0	0	0	0	0
MPC BIT NUMBER	8	7	6	5	4	3	2	1	0			

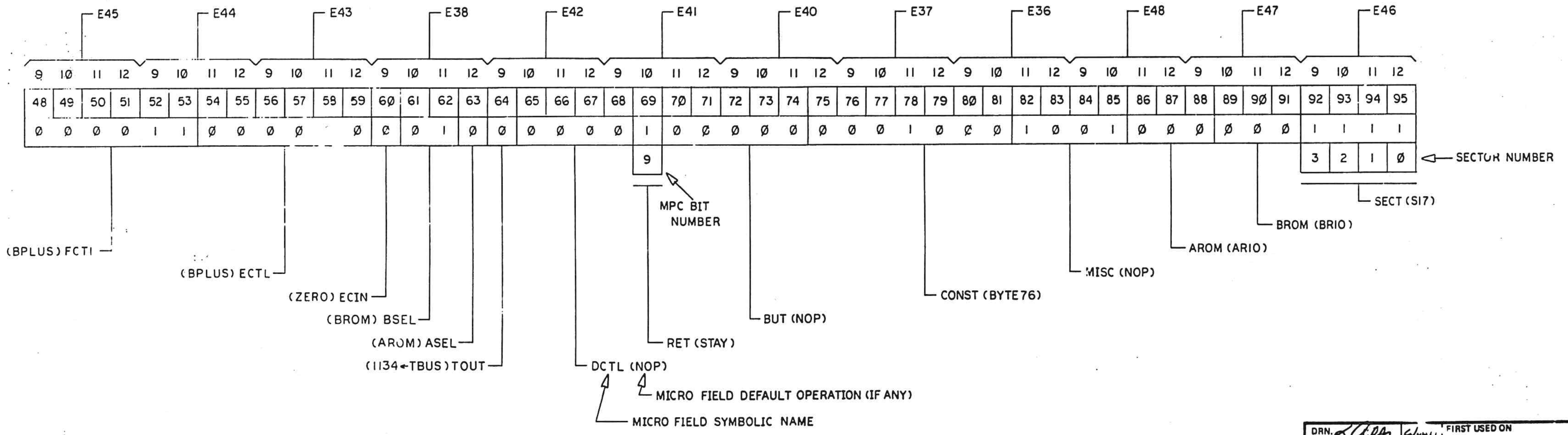
PROM DESIGNATION NUMBER	E107				E106				E99			
PROM PIN NUMBER	11	12	13	14	11	12	13	14	11	12	13	14
MICRO FIELD BIT NUMBER	12	13	14	15	16	17	18	19	20	21	22	23
DEFAULT STATE OF MICRO FIELD	0	0	0	0	0	0	0	0	0	0	0	0

PROM DESIGNATION NUMBER	E97				E98				E100			
PROM PIN NUMBER	11	12	13	14	11	12	13	14	11	12	13	14
MICRO FIELD BIT NUMBER	24	25	26	27	28	29	30	31	32	33	34	35
DEFAULT STATE OF MICRO FIELD	0	0	0	0	0	0	0	0	0	0	0	0

PROM DESIGNATION NUMBER	E104				E103				E105			
PROM PIN NUMBER	11	12	13	14	11	12	13	14	11	12	13	14
MICRO FIELD BIT NUMBER	36	37	38	39	40	41	42	43	44	45	46	47
DEFAULT STATE OF MICRO FIELD	0	0	1	1	1	1	0	0	0	0	0	0

① NOTE THAT BITS 18, 40, 43, AND 44 ARE NOT USED IN THE FLOATING POINT SECTION OF THE 1134 CONTROL STORE (UPPER 512 LOCATIONS)

FP11-A CONTROL WORD (WITHIN M8267)



PROM DESIGNATION NUMBER	E45				E44				E43			
PROM PIN NUMBER	9	10	11	12	9	10	11	12	9	10	11	12
MICRO FIELD BIT NUMBER	48	49	50	51	52	53	54	55	56	57	58	59
DEFAULT STATE OF MICRO FIELD	0	0	0	0	1	1	0	0	0	0		0

PROM DESIGNATION NUMBER	E38				E42				E41			
PROM PIN NUMBER	9	10	11	12	9	10	11	12	9	10	11	12
MICRO FIELD BIT NUMBER	60	61	62	63	64	65	66	67	68	69	70	71
DEFAULT STATE OF MICRO FIELD	0	0	1	0	0	0	0	0	0	1	0	0
MPC BIT NUMBER										9		

PROM DESIGNATION NUMBER	E40				E37				E36			
PROM PIN NUMBER	9	10	11	12	9	10	11	12	9	10	11	12
MICRO FIELD BIT NUMBER	72	73	74	75	76	77	78	79	80	81	82	83
DEFAULT STATE OF MICRO FIELD	0	0	0	0	0	0	1	0	0	0	1	0

PROM DESIGNATION NUMBER	E48				E47				E46			
PROM PIN NUMBER	9	10	11	12	9	10	11	12	9	10	11	12
MICRO FIELD BIT NUMBER	84	85	86	87	88	89	90	91	92	93	94	95
DEFAULT STATE OF MICRO FIELD	0	1	0	0	0	0	0	0	1	1	1	1
SECTOR NUMBER									3	2	1	0

REVISIONS
REV.
CHANGE NO.
CHK

DRN. Wun 77
CHK'D 12 Jun 77
ENG. 17 Jun 77
PROJ. ENG MITCH 17 Jun 77
PROD. 7 Jun 77
NEXT HIGHER ASSY.
B-DD-FP11-A
SCALE
SHEET 1 OF 40

FIRST USED ON
FP11-A

digital

TITLE
FP11-A
FLOW DIAGRAMS

SIZE D
CODE FD
NUMBER FP11-A-2
REV.
DIST.

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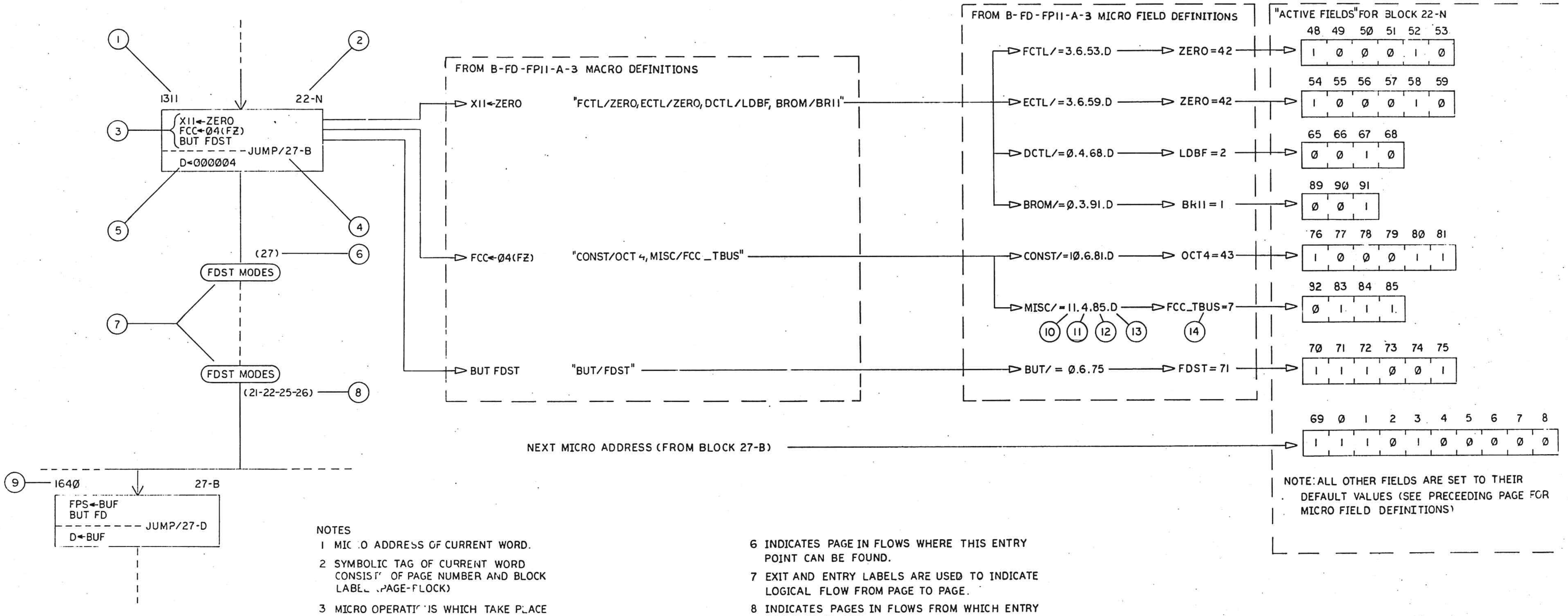
KEY TO MICRO FLOW SYMBOLOGY



NOTE: ALL OTHER FIELDS ARE SET TO THEIR DEFAULT VALUES (SEE PRECEEDING PAGE FOR MICRO FIELD DEFINITIONS)

NOTES

1 MICRO ADDRESS OF CURRENT WORD.

2 SYMBOLIC TAG OF CURRENT WORD CONSISTS OF PAGE NUMBER AND BLOCK LABEL (PAGE-BLOCK)

3 MICRO OPERATIONS WHICH TAKE PLACE DURING THIS STATE. THE FIELDS WHICH ARE INVOLVED IN CARRYING OUT THESE OPERATIONS CAN BE DETERMINED USING:
FP11-A MACRO DEFINITIONS
FP11-A MICRO FIELD DEFINITIONS

4 27-B IS THE SYMBOLIC TAG OF THE NEXT MICRO WORD (TARGET) ASSUMING NO BRANCHING (DESTINATION MODE 0). THIS CAN BE USED TO DETERMINE THE NEXT ADDRESS FIELD OF THE CURRENT MICRO WORD.

5 "D" STANDS FOR DISPLAY. IN THIS CASE, 000004 WILL APPEAR ON THE CONSOLE DISPLAY IF OPERATING IN MAINTENANCE MODE.

6 INDICATES PAGE IN FLOWS WHERE THIS ENTRY POINT CAN BE FOUND.

7 EXIT AND ENTRY LABELS ARE USED TO INDICATE LOGICAL FLOW FROM PAGE TO PAGE.

8 INDICATES PAGES IN FLOWS FROM WHICH ENTRY POINT IS CALLED.

9 THIS ADDRESS IS THE TARGET OF THE JUMP FIELD OF BLOCK 22-N

10 DEFAULT VALUE OF THIS FIELD

11 NUMBER OF BITS IN THIS FIELD

12 LOCATION OF RIGHT MOST BIT OF THIS FIELD WITHIN MICRO WORD.

13 INDICATES THAT THE DEFAULT IS TAKEN IF NOTHING ELSE IS SPECIFIED

14 OCTAL VALUE OF MICRO FIELD LITERAL

REVISIONS		
CHK	CHANGE NO	REV.

TITLE
FP11-A FLOWS
SCALE
SHEET 2 OF 40
SIZE D
CODE FD
NUMBER FP11-A-2
REV.
DIST.

FP11-A TYPICAL REGISTER USAGE

17	▨	FPS		▨
16	▨	FCCR		▨
15	▨	FEC		▨
14	▨	ZERO		EFSRC
13	▨	ZERO		EAC
12		FSRC	S	E
11		AC	S	E
10	E	FSRC (BECOMES SIGN)	S	E
7 6	▨	▨	▨	▨
5	E	AC5	S	E
4	E	AC4	S	E
3	E	AC3	S	E
2	E	AC2	S	E
1	E	AC1	S	E
0	E	AC0	S	E

SECTOR3	SECTOR 2		SECTOR 1		SECTOR 0		SECTOR 3
BYTE 6	BYTE 5	BYTE 4	BYTE 3	BYTE 2	BYTE 1	BYTE 0	BYTE 7
F-REG							E-REG
X-REG							

FP11-A TS BUS ASSIGNMENT

TS0		Y8
TS1		Y9
TS5	FT	Y61
TS6		Y62
TS8	FIC	
TS9	FIV	
TS10		
TS11	FIUV	
TS14	FID	

FP11-A MPC BUTOFF BITS

MPC	1134	FPX TS BUT	FPX CONDITIONS	FPX BUT OP1	FPX BUT OP2
0	IR09	—	—	OP10	OP20
1	ZBIT	TS0	TS14	OP11	OP21
2	C05	TS1	XOUT	OP12	OP22
3	SP15	TS8	Q8-Q40	OP13	OP23
4	BX00	TS9	XZBT	—	—
5	BX01	TS10	XNBT	—	—
6	NBIT	TS11	BUSRQ	—	—
7	COUT	TS5	EZBT	—	—
8		TS6	ENBT	—	—

FLOATING POINT STATUS REGISTER

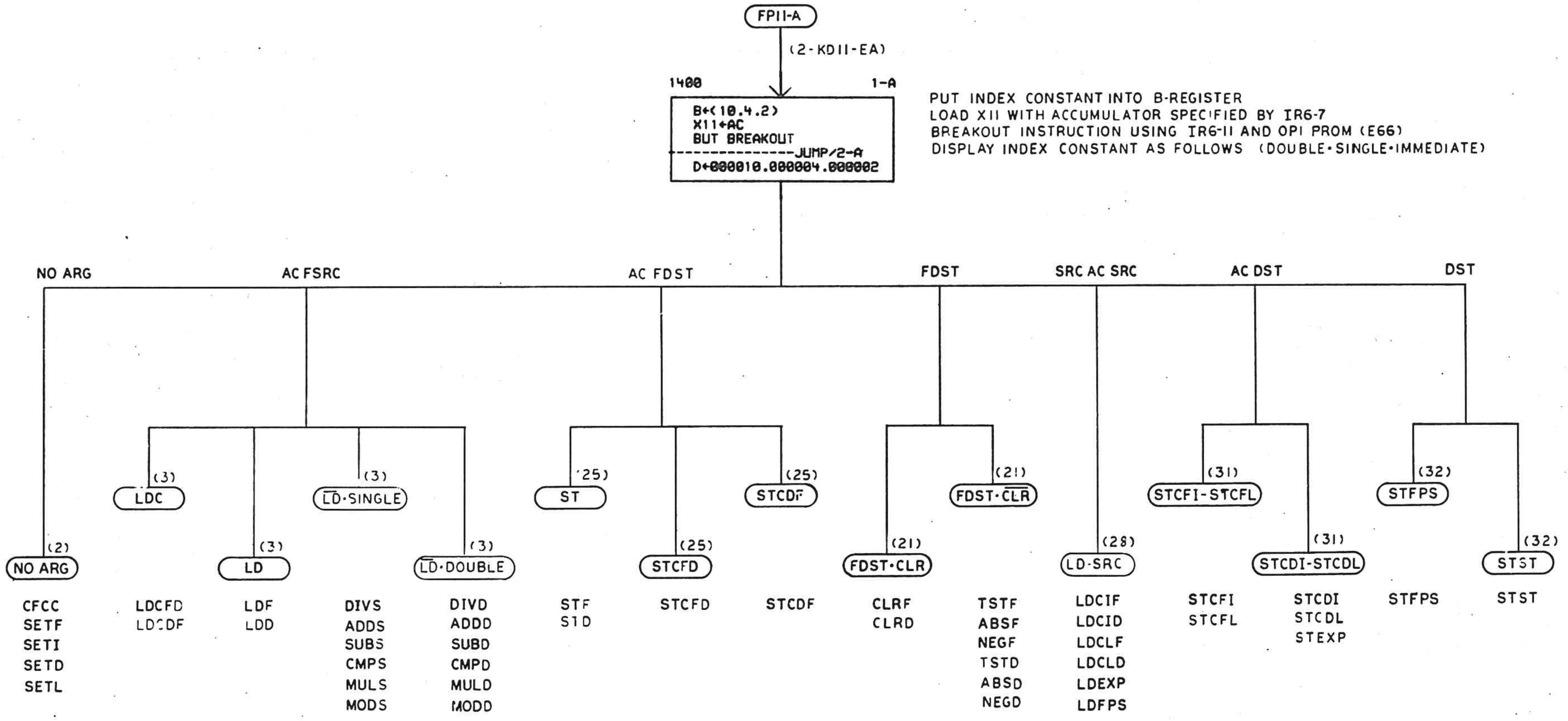
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
FER	FID	☒	☒	FIUV	FIU	FIV	FIC	FD	FL	FT	☒	FN	FZ	FV	FC

REVISIONS		
CHK	CHANGE NO.	REV.

MAKEPEACE P 1055

DEC FORM NO.
DRD 130

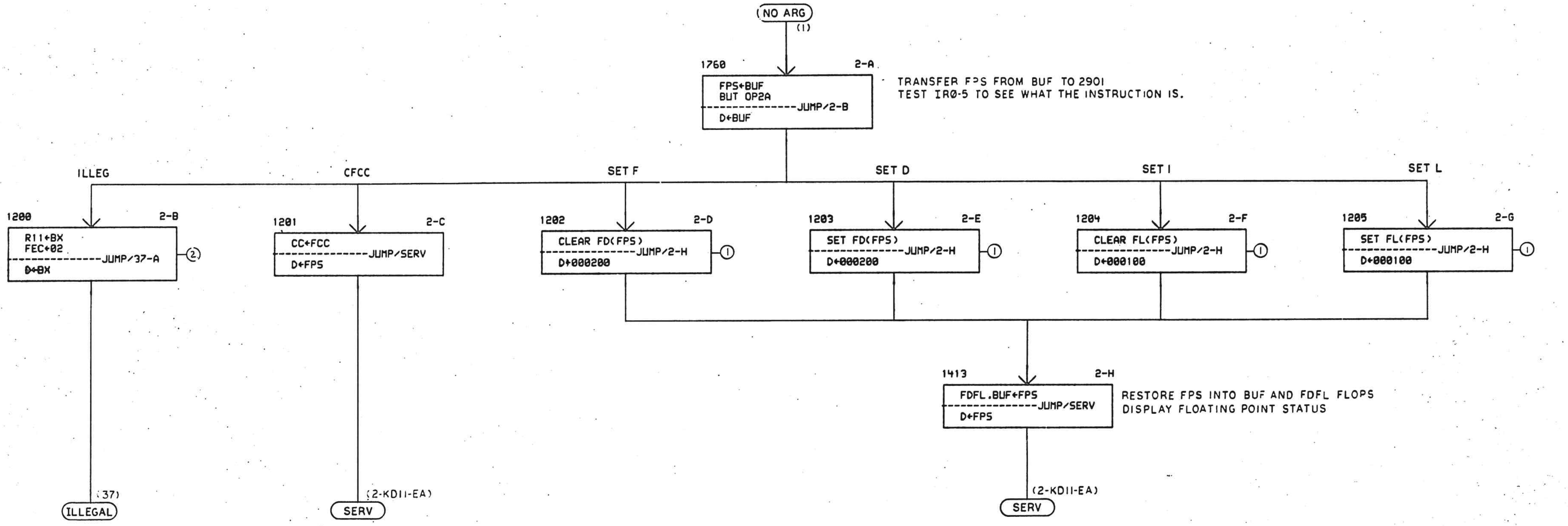
TITLE	SIZE	CODE	NUMBER	REV.
FP11-A FLOWS	D	FD	FP11-A-2	
SCALE —— SHEET 3 OF 40	DIST.			



PUT INDEX CONSTANT INTO B-REGISTER
LOAD X11 WITH ACCUMULATOR SPECIFIED BY IR6-7
BREAKOUT INSTRUCTION USING IR6-11 AND OP1 PROM (E66)
DISPLAY INDEX CONSTANT AS FOLLOWS (DOUBLE·SINGLE·IMMEDIATE)

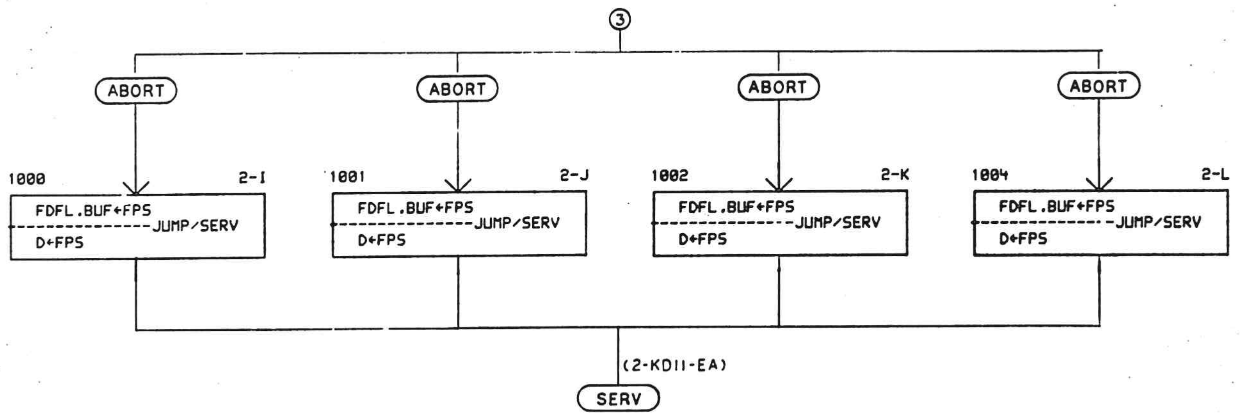
REVISIONS
CHK | CHANGE NO. | REV.

TITLE FP11-A FLOWS (1)
SIZE D CODE FD NUMBER FP11-A-2 REV.
SCALE SHEET 4 OF 4[illegible] DIST.



TRANSFER FPS FROM BUF TO 2901
TEST IR0-5 TO SEE WHAT THE INSTRUCTION IS.

RESTORE FPS INTO BUF AND FDFL FLOPS
DISPLAY FLOATING POINT STATUS

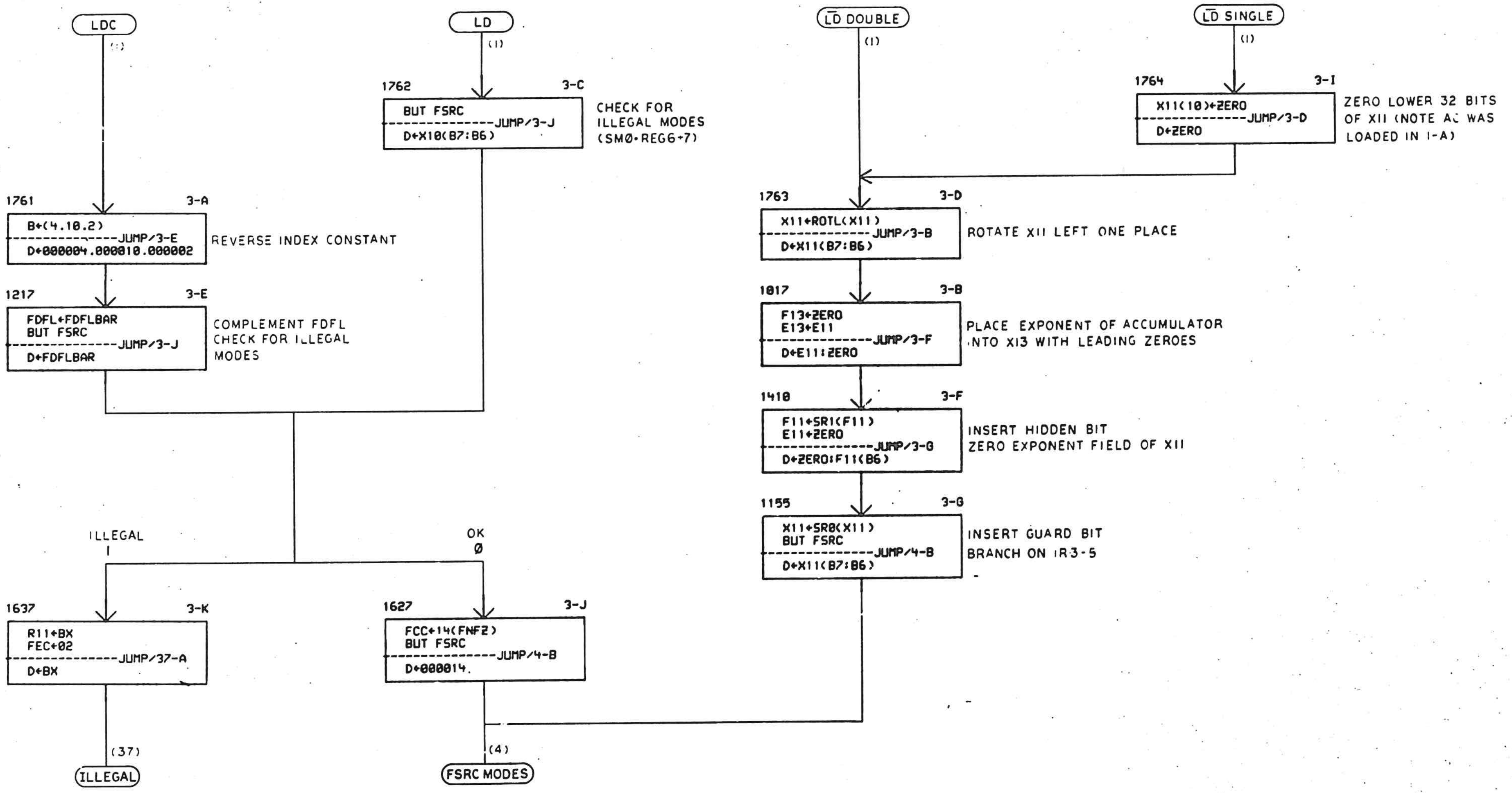


NOTES

1. BITS OF THE FPS ARE SET OR CLEARED BY ORING/ANDING CONSTANTS (SEE MACRO DEFINATIONS)
2. BX CONTAINS THE PC+2 WHICH IS TRANSFERRED TO THE FEA (R11) THE FEC IS X15 OF THE 2901
3. ABORT CATCHERS FOR FD11-A MICRO CODE. ABORTS ARE CAUSED BY:
    1. SSYN TIMEOUT
    2. KT ERRORS
    3. PARITY ERRORS

REVISIONS
CHK CHANGE NO. REV.

TITLE FP11-A FLOWS (2)
SIZE D CODE FD NUMBER FP11-A-2 REV.
SCALE
SHEET [illegible] OF 4[illegible]
DIST.



REVISIONS

CHK	CHANGE NO.	REV.

TITLE
FP11-A FLOWS (3)
SIZE D
CODE FD
NUMBER FP11-A-2
REV.
SCALE
SHEET 6 OF 40
DIST.

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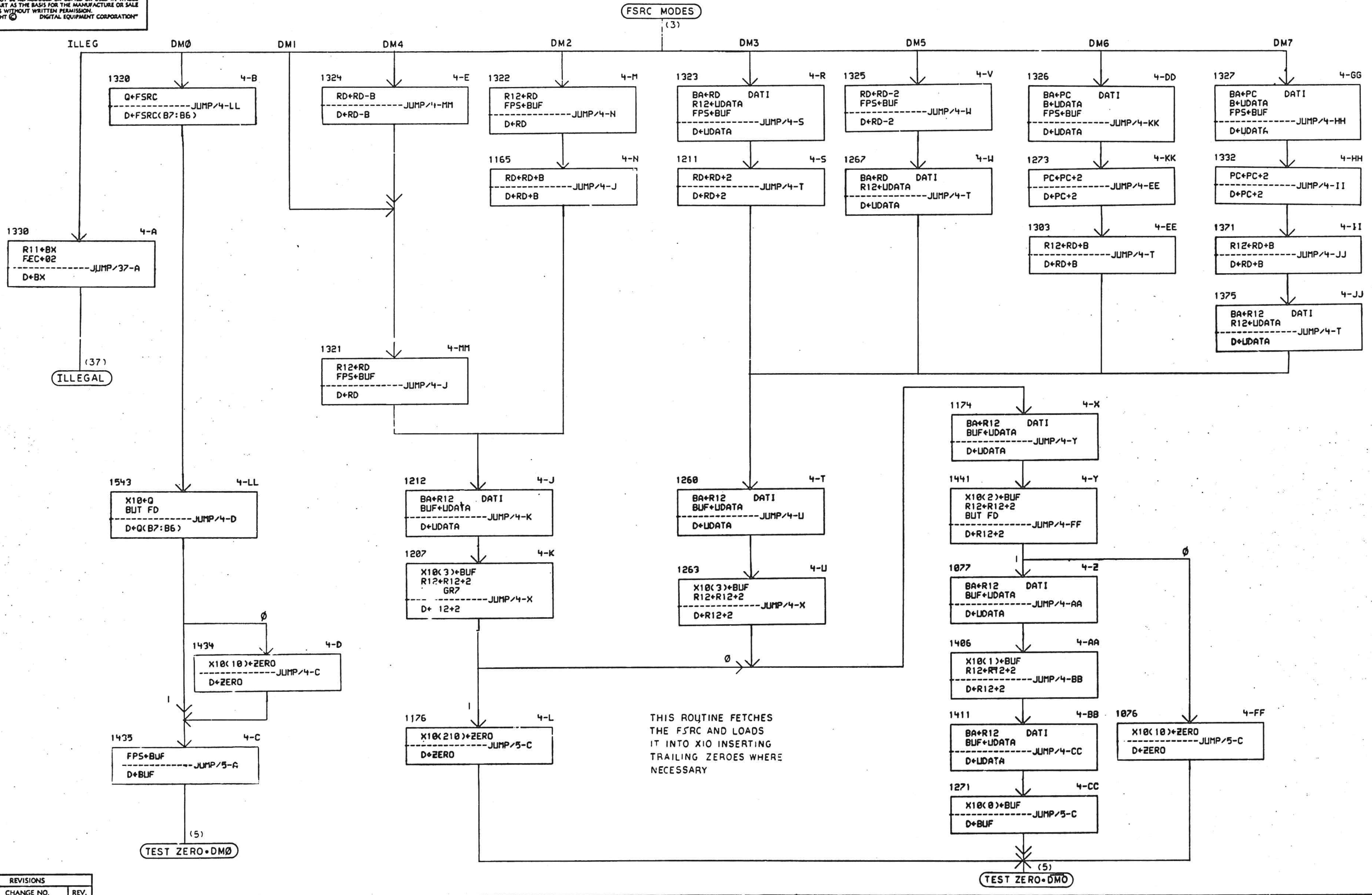


THIS ROUTINE FETCHES THE FSRC AND LOADS IT INTO X10 INSERTING TRAILING ZEROES WHERE NECESSARY

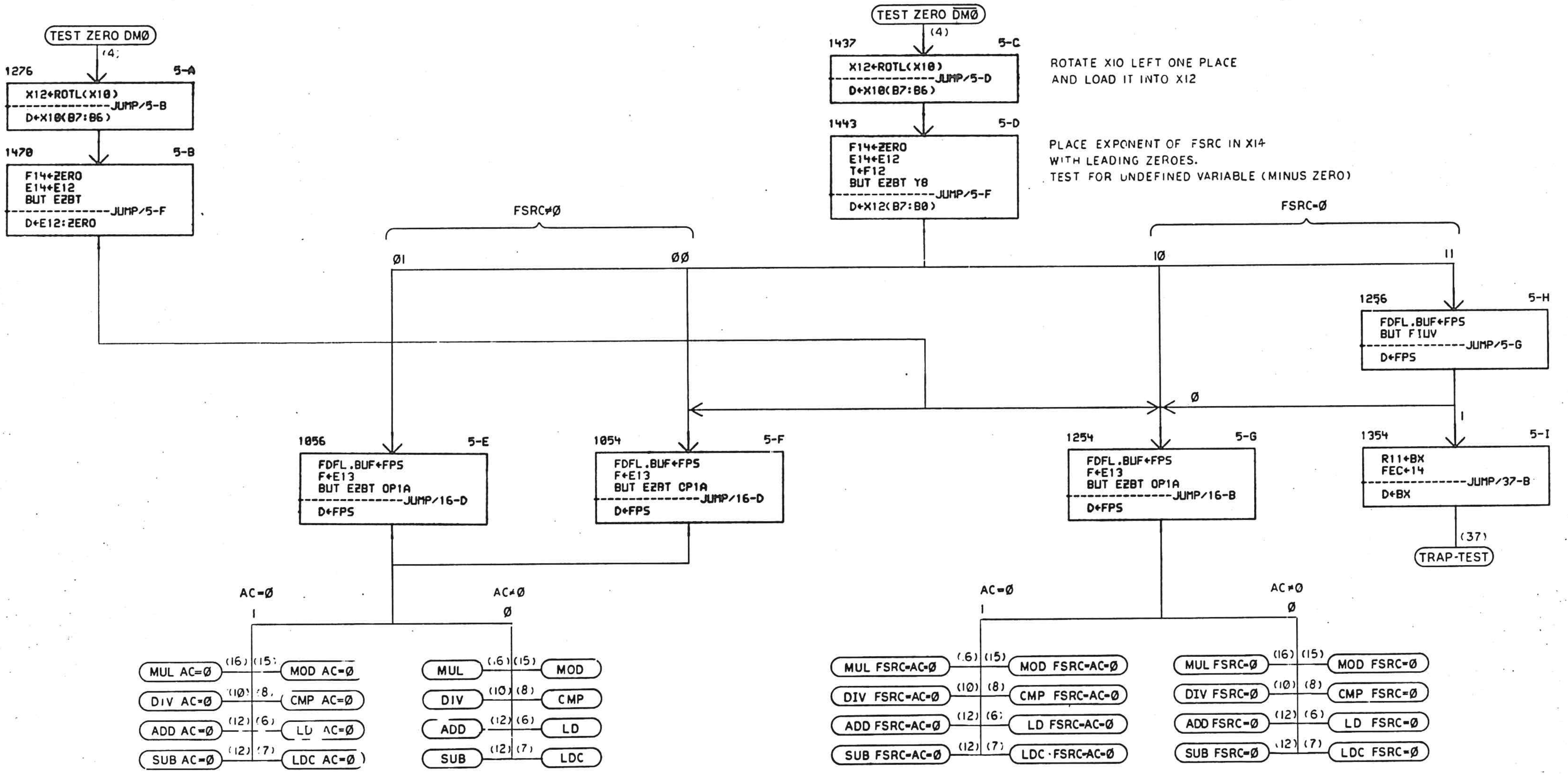
REVISIONS		
CHK.	CHANGE NO.	REV.

TITLE
FP11-A FLOWS (4)
SCALE
SHEET 7 OF 40

SIZE	CODE	NUMBER	REV.
D	FD	FP11-A-2	

DIST.

DEC FORM NO.



ROTATE X10 LEFT ONE PLACE
AND LOAD IT INTO X12

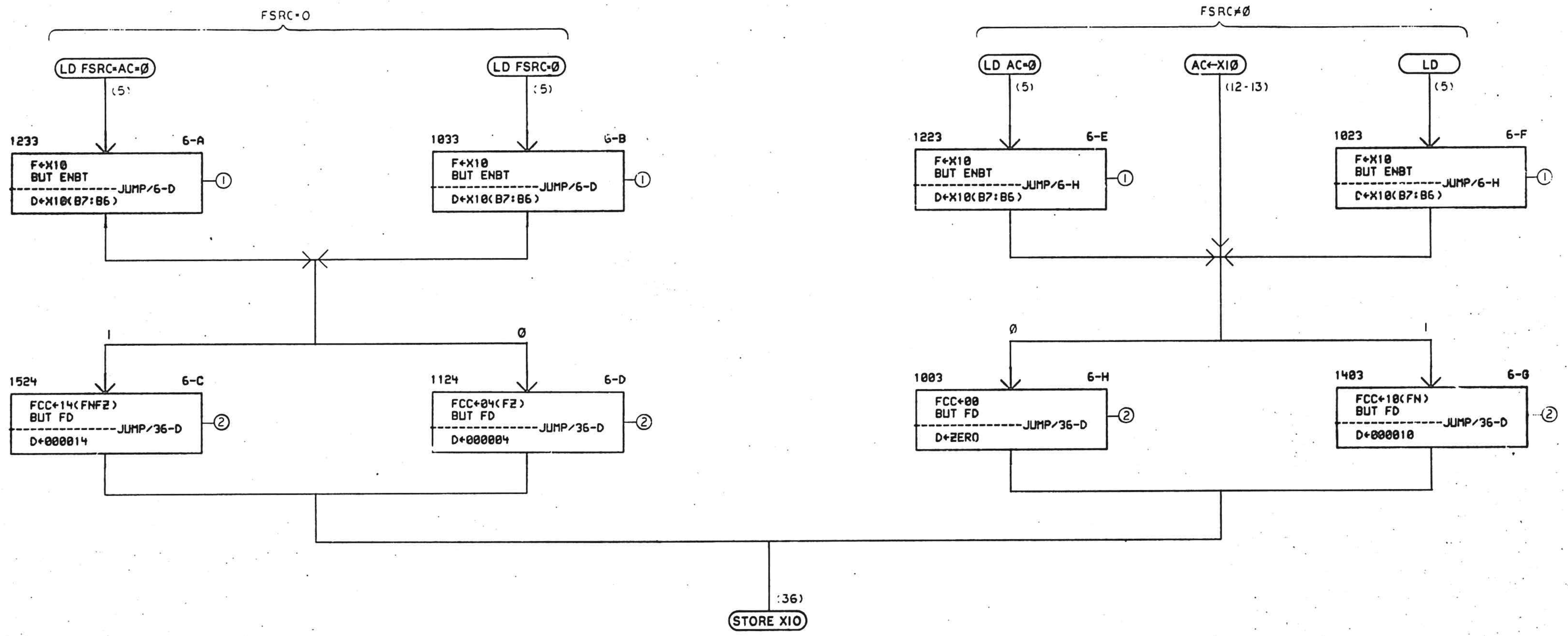
PLACE EXPONENT OF FSRC IN X14
WITH LEADING ZEROES.
TEST FOR UNDEFINED VARIABLE (MINUS ZERO)

REVISIONS		
CHK	CHANGE NO	REV.

TITLE
FP11-A FLOWS (5)

SIZE	CODE	NUMBER	REV.
D	FD	FP11-A-2	

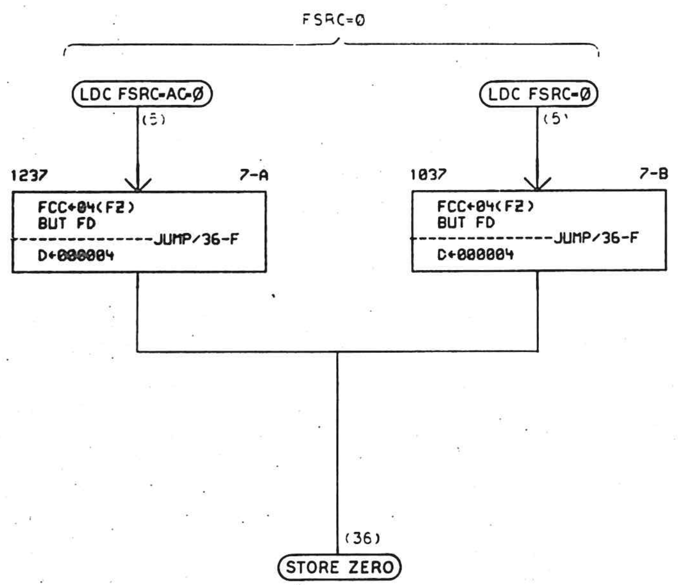
SCALE
SHEET [illegible] OF 4[illegible]
DIST.



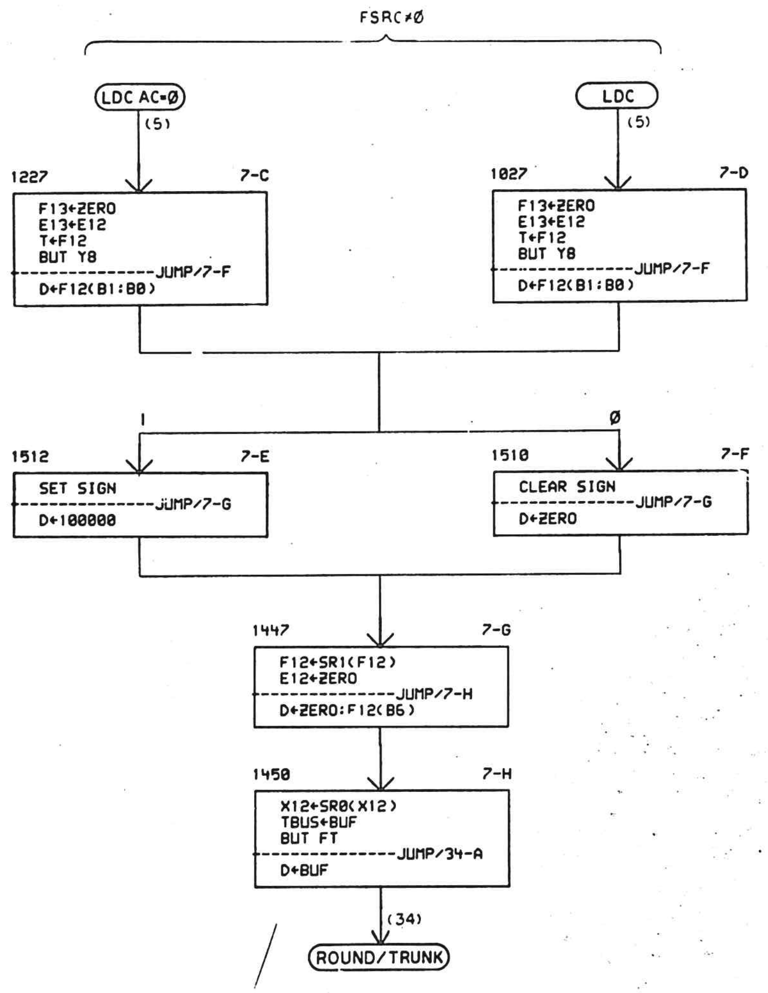
NOTES
1. TEST SIGN OF FSRC (XIØ: BIT 7)
2. SET FLOATING CONDITION CODES (FCC) USING THE APPROPRIATE CONSTANT. NOTE THAT THE FCC IS CONTAINED IN THE LOWER FOUR BITS OF THE BUFFER (BUF).

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
FP11-A FLOWS (6)	D	FD	FP11-A-2	
SCALE / SHEET 9 OF 40	DIST.			



IN THIS CASE THE FSRC IS ZERO
SO NO ROUNDING IS NECESSARY



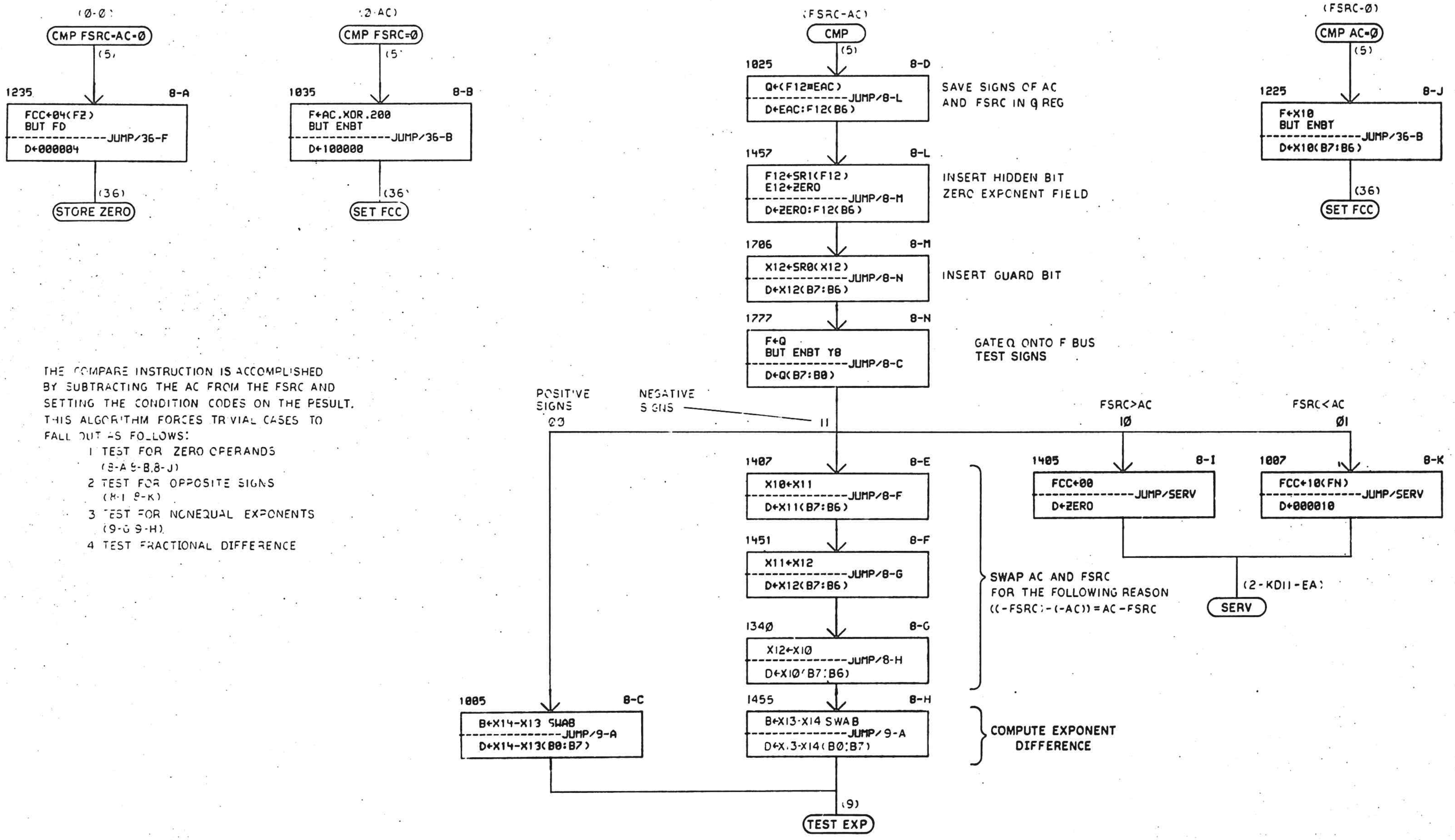
THIS ROUTINE SETS UP THE FSRC SO THAT
THE ROUND/TRUNK ROUTINE CAN BE USED
TO COMPLETE THE OPERATION

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
FP11-A FLOWS (7)

SIZE	CODE	NUMBER	REV.
D	FD	FP11-A-2	

SCALE
SHEET 10 OF 40
DIST.

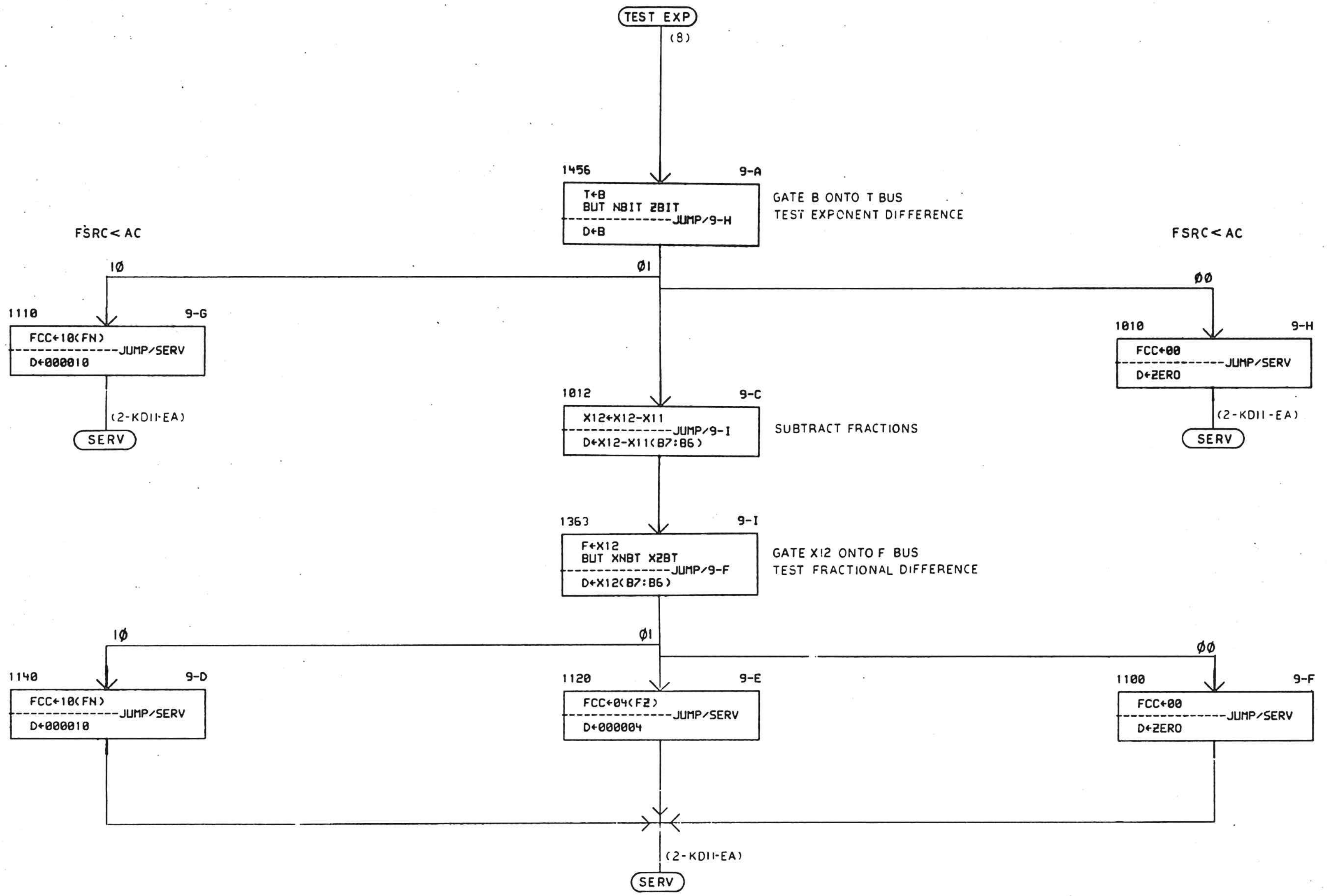


THE COMPARE INSTRUCTION IS ACCOMPLISHED BY SUBTRACTING THE AC FROM THE FSRC AND SETTING THE CONDITION CODES ON THE RESULT. THIS ALGORITHM FORCES TRIVIAL CASES TO FALL OUT AS FOLLOWS:

1 TEST FOR ZERO OPERANDS (8-A 8-B,8-J)
2 TEST FOR OPPOSITE SIGNS (8-I 8-K)
3 TEST FOR NONEQUAL EXPONENTS (9-G 9-H)
4 TEST FRACTIONAL DIFFERENCE

REVISIONS		
CHK	CHANGE NO	REV.

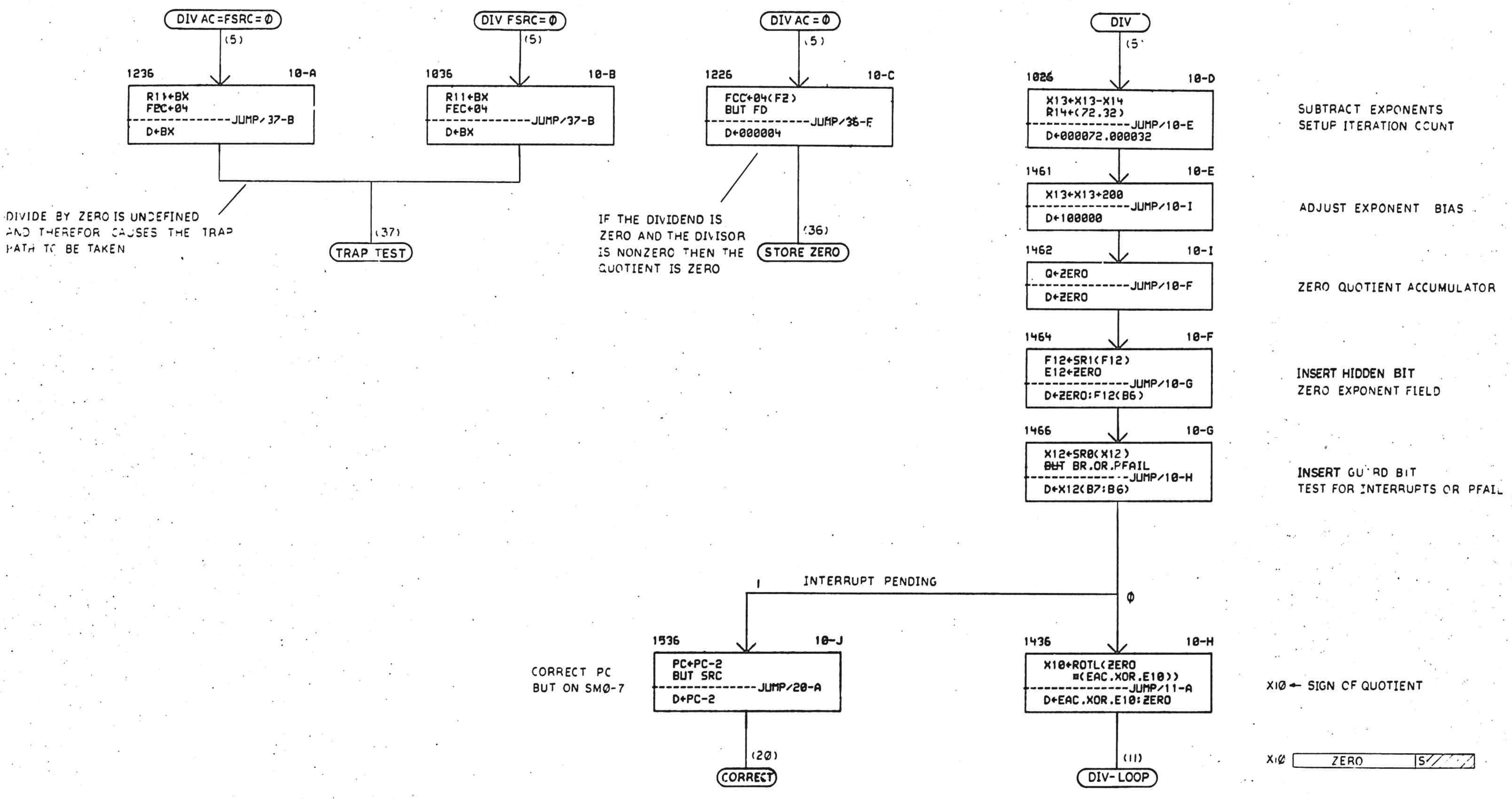
TITLE	SIZE	CODE	NUMBER	REV.
FP11-A FLOWS (8)	D	FD	FP11-A-	
SCALE SHEET 11 OF [illegible]	DIST.			



REVISIONS
CHK | CHANGE NO. | REV.

TITLE
FP11-A FLOWS (9)
SCALE
SHEET 2 OF 4
SIZE D
CODE FD
NUMBER FP11-A-
REV.
DIST.

D FD FP11-A-2

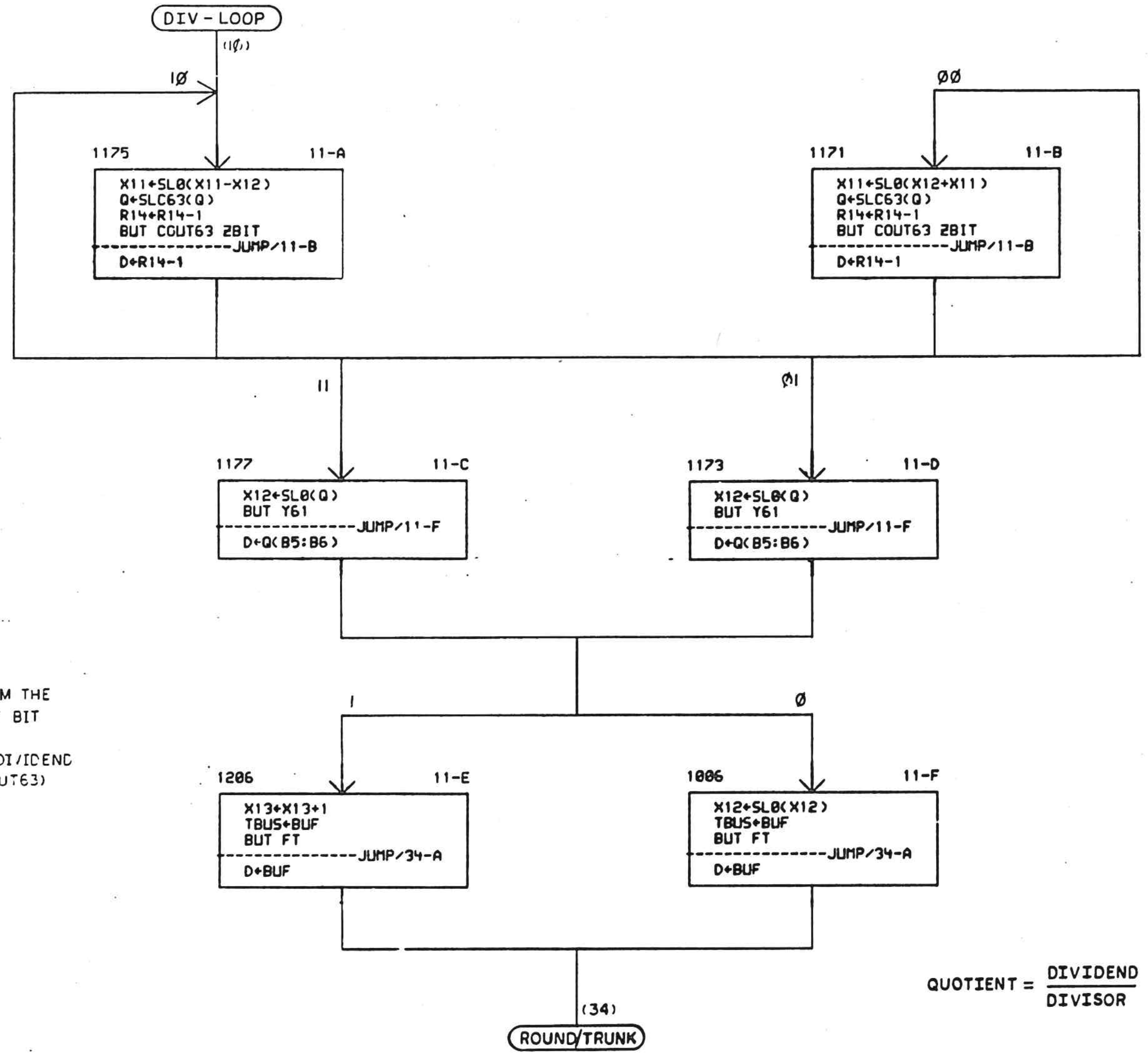


REVISIONS

CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
FP11-A FLOWS (10)	D	FD	FP11-A-	

SCALE
SHEET 13 OF 40
DIST.



THIS IS A NONRESTORING
DIVISION ALGORITHM IN WHICH:

1. THE DIVISOR IS SUBTRACTED FROM THE DIVIDEND IF THE LAST QUOTIENT BIT (COUT63) WAS ONE.
2. THE DIVISOR IS ADDED TO THE DIVIDEND IF THE LAST QUOTIENT BIT (COUT63) WAS ZERO

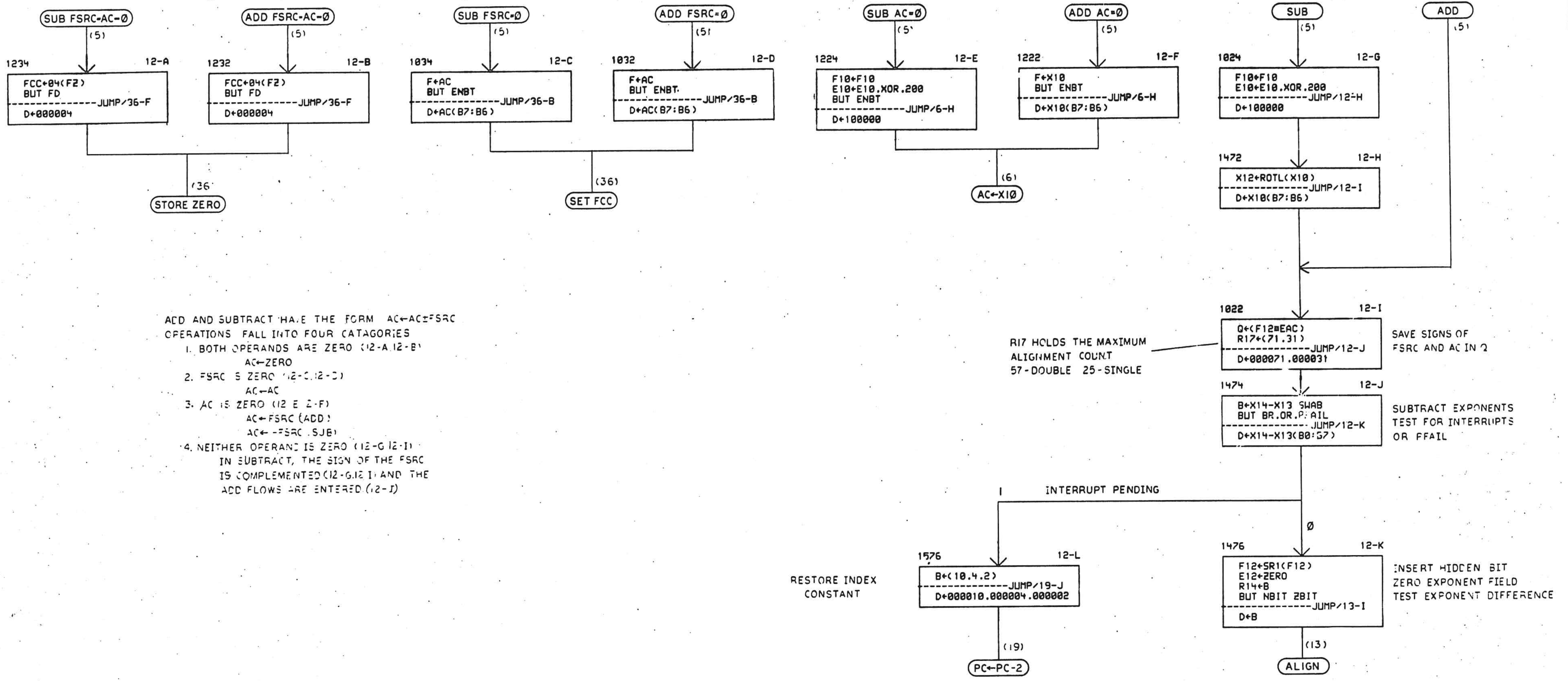
$$\text{QUOTIENT} = \frac{\text{DIVIDEND}}{\text{DIVISOR}} = \frac{\text{AC}}{\text{FSRC}} = \frac{\text{X11}}{\text{X12}}$$

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
FP11-A FLOWS (11)
SCALE
SHEET 14 OF 40

SIZE	CODE	NUMBER	REV.
D	FD	FP11-A-	

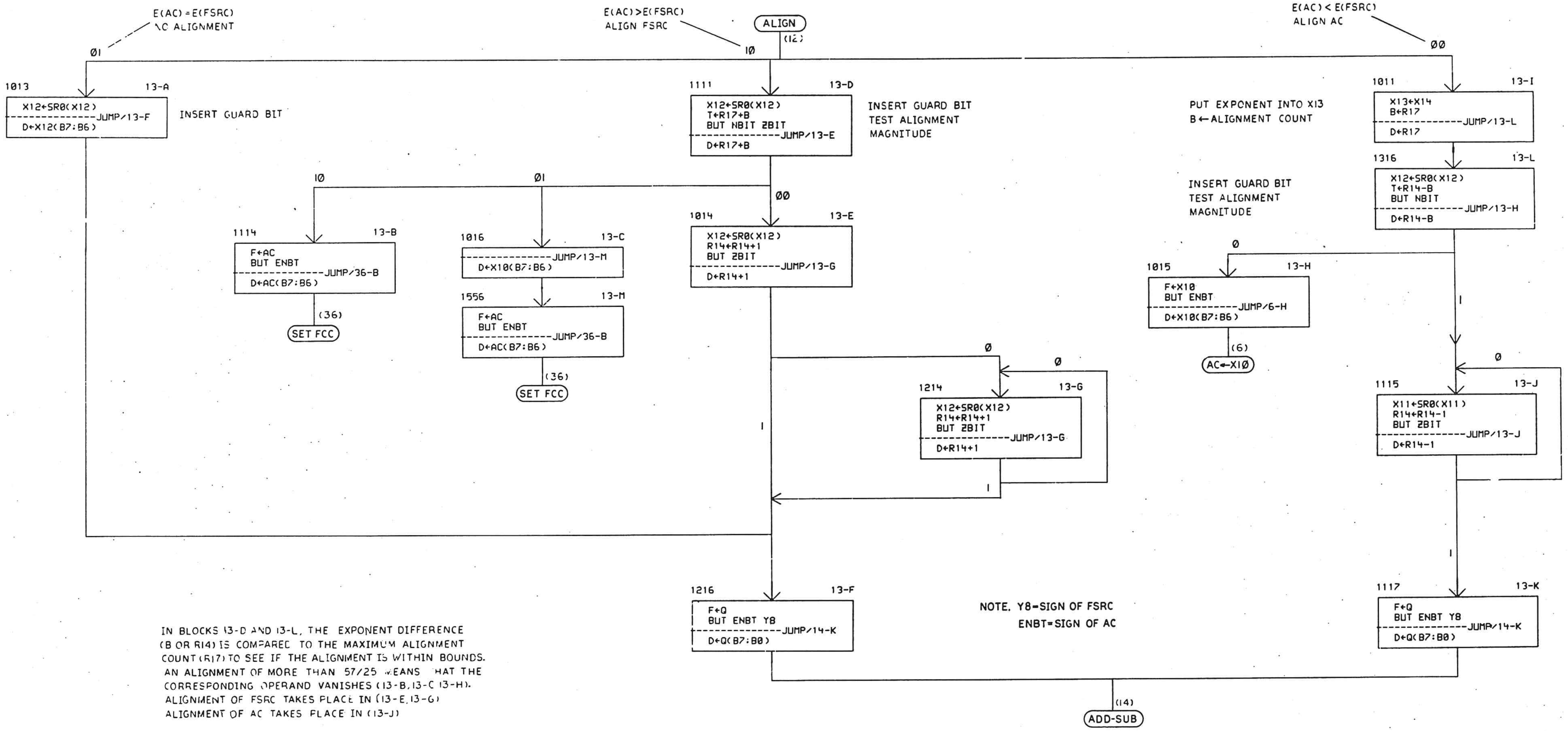
DIST.



ADD AND SUBTRACT HAVE THE FORM AC←AC±FSRC
OPERATIONS FALL INTO FOUR CATAGORIES
1. BOTH OPERANDS ARE ZERO (12-A,12-B)
   AC←ZERO
2. FSRC IS ZERO (12-C,12-D)
   AC←AC
3. AC IS ZERO (12-E,12-F)
   AC←FSRC (ADD)
   AC← -FSRC (SUB)
4. NEITHER OPERAND IS ZERO (12-G,12-I)
   IN SUBTRACT, THE SIGN OF THE FSRC
   IS COMPLEMENTED (12-G,12-I) AND THE
   ADD FLOWS ARE ENTERED (12-I)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
FP11-A FLOWS (12)
SIZE D
CODE FD
NUMBER FP11-A-2
REV.
SCALE
SHEET 1[illegible] OF 4[illegible]
DIST.



NOTE, Y8=SIGN OF FSRC
ENBT=SIGN OF AC

IN BLOCKS 13-D AND 13-L, THE EXPONENT DIFFERENCE (B OR R14) IS COMPARED TO THE MAXIMUM ALIGNMENT COUNT (R17) TO SEE IF THE ALIGNMENT IS WITHIN BOUNDS. AN ALIGNMENT OF MORE THAN 57/25 MEANS THAT THE CORRESPONDING OPERAND VANISHES (13-B, 13-C 13-H). ALIGNMENT OF FSRC TAKES PLACE IN (13-E, 13-G) ALIGNMENT OF AC TAKES PLACE IN (13-J)

REVISIONS

CHK	CHANGE NO.	REV.

TITLE
FP11-A FLOWS (13)

SIZE	CODE	NUMBER	REV.
D	FD	FP11-A-2	

SCALE
SHEET 12 OF 40
DIST.

DEC FORM NO
DRD 138

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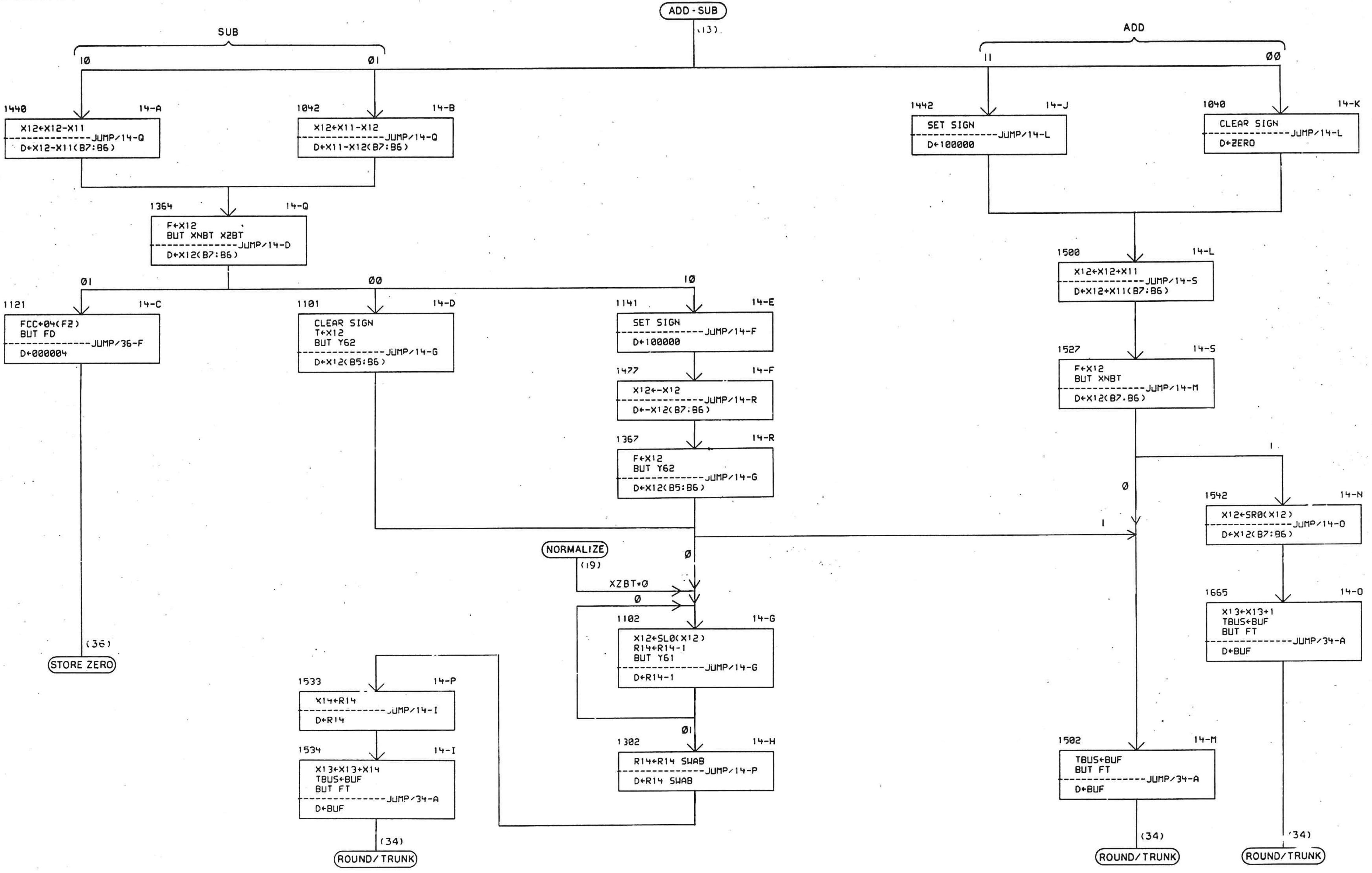
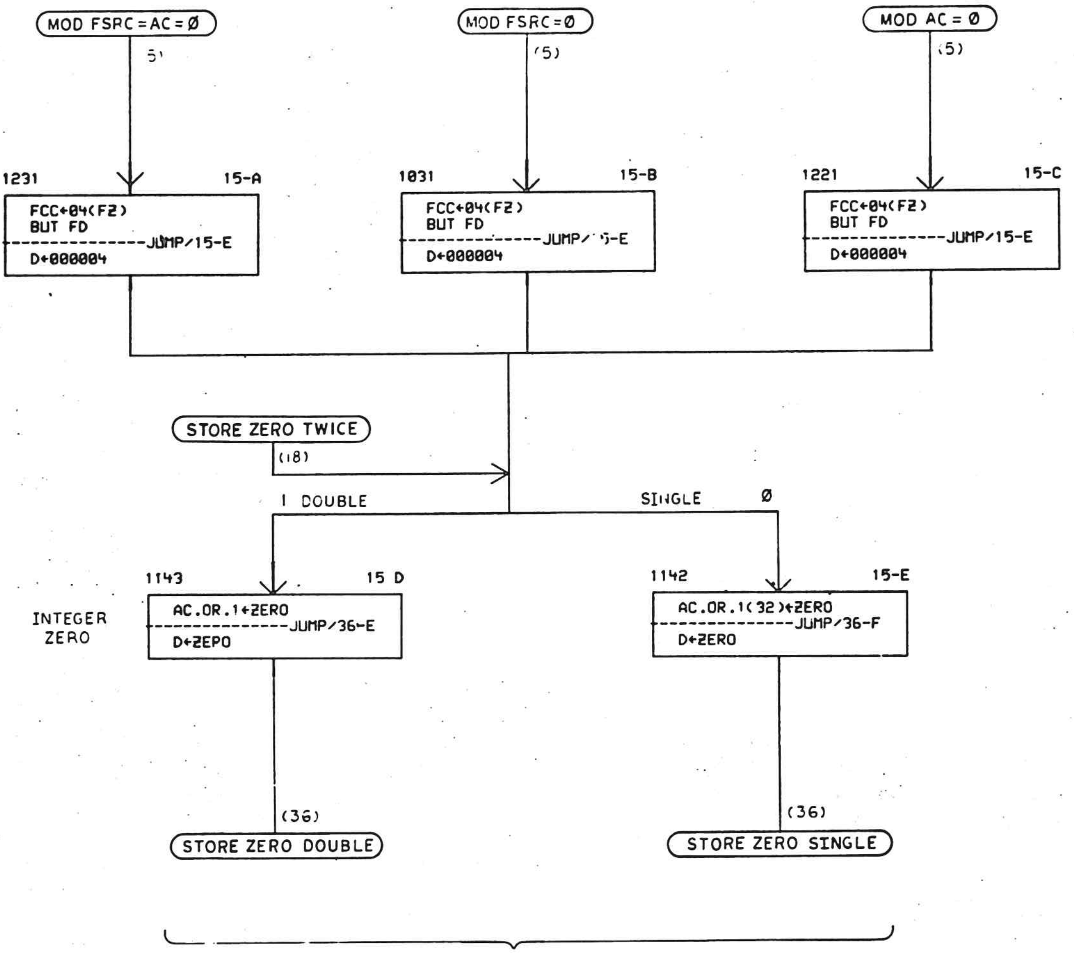
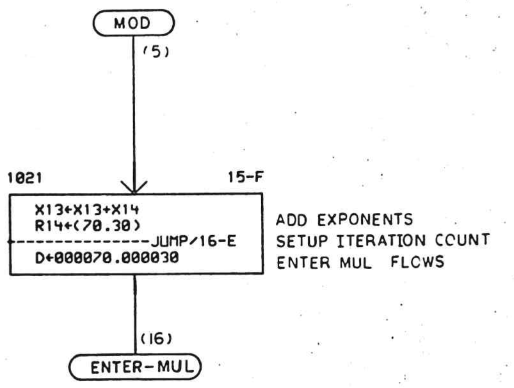


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
FP11-A FLOWS (14)	D	FD	FP11-A-2	
SCALE ← →	SHEET 17 OF 40	DIST.		



IN THIS CASE, BOTH FRACTION AND INTEGER ARE ZERO (SINCE THE PRODUCT IS ZERO)



THIS INSTRUCTION GENERATES THE PRODUCT OF ITS TWO FLOATING POINT OPERANDS, SEPARATES THE PRODUCT INTO INTEGER AND FRACTIONAL PARTS AND THEN STORES BOTH PARTS AS NORMALIZED FLOATING POINT NUMBERS.

FOR EXAMPLE. IF

PRODUCT = $.1111000111 \times 2^4$

THEN

INTEGER = $.1111000000 \times 2^4$
FRACTION = $.0000000111 \times 2^4$

THE INTEGER IS STORED IN THE AC v 1. THE FRACTION, AFTER BEING NORMALIZED, IS STORED IN THE AC.
NOTE THAT IF THE AC IS AN ODD REGISTER THE INTEGER IS OVER-WRITTEN BY THE FRACTION.

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE FPII-A FLOWS (15)
SCALE
SHEET 18 OF 40
SIZE D
CODE FD
NUMBER FPII-A-2
REV.
DIST.

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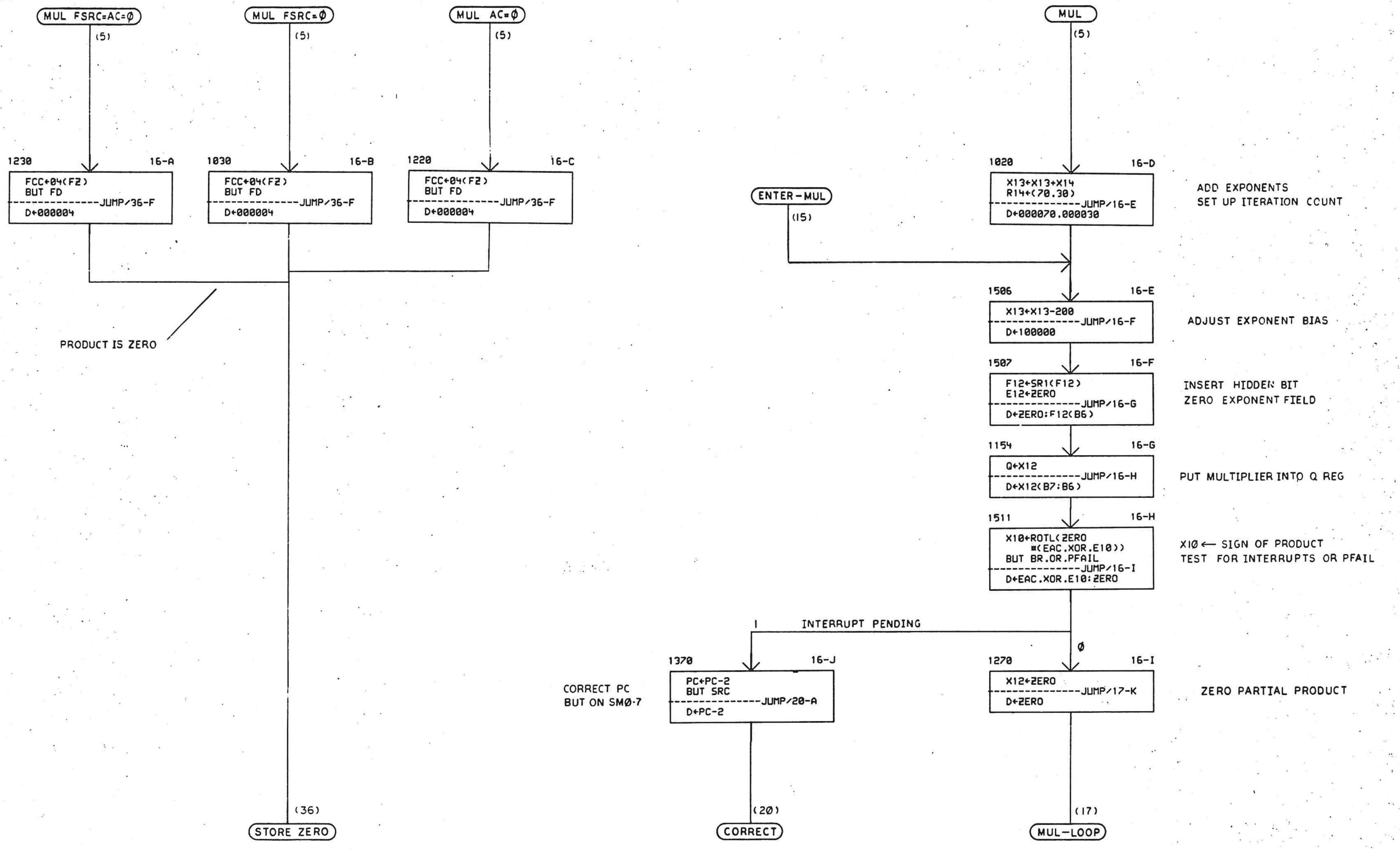


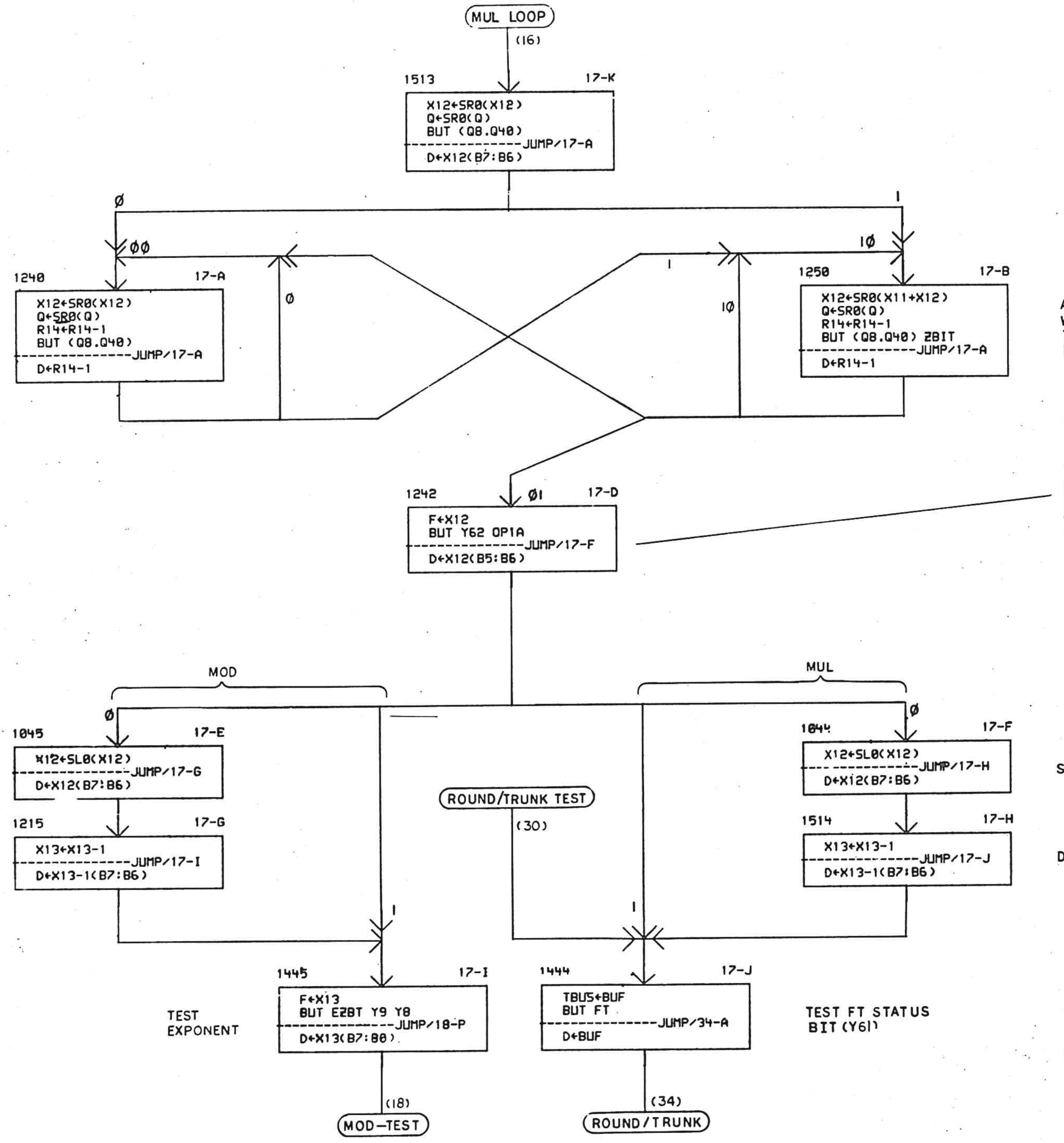
REVISIONS

CHK	CHANGE NO.	REV.

TITLE
FPII-A FLOWS (16)
SCALE
SHEET 19 OF 40

SIZE	CODE	NUMBER	REV.
D	FD	FPII-A-2	

DIST.



ALL SHIFTING IS DONE WHEN WE DROP OUT OF THIS LOOP LEFT GARD BIT IS ZERO

TEST MSB OF PRODUCT TO SEE IF PRE-NORMTLIZATION IS NESCESSARY. ALSO BREAK OUT MUL AND MOD INTO SEPARATE FLOWS.

SHIFT PRODUCT LEFT ONE PLACE

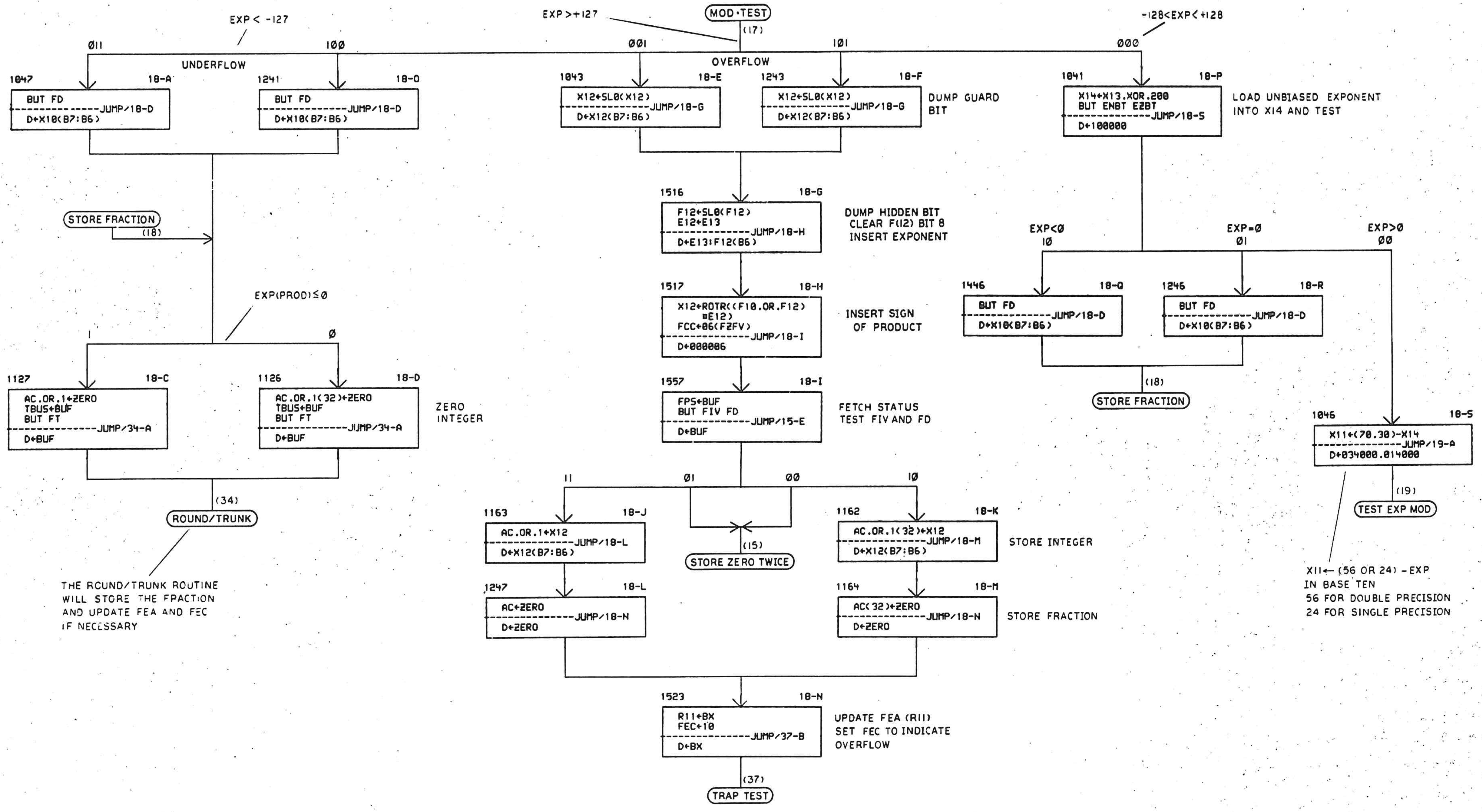
DECREMENT EXPONENT

TEST EXPONENT

TEST FT STATUS BIT (Y61)

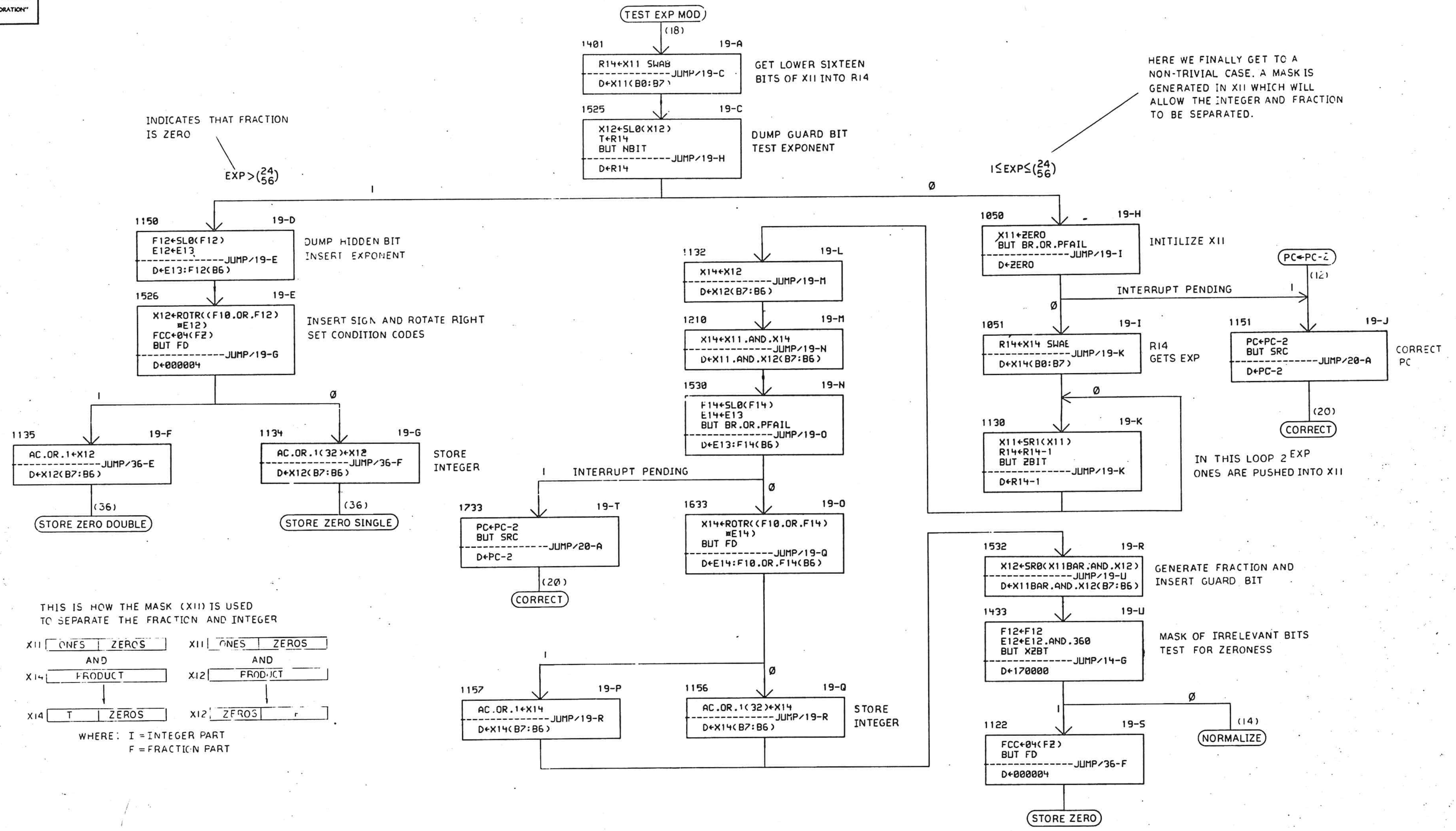
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
FP11-A FLOWS (17)	D	FD	FP11-A-2	
SCALE	SHEET 20 OF 40	DIST.		



REVISIONS
CHK | CHANGE NO. | REV.

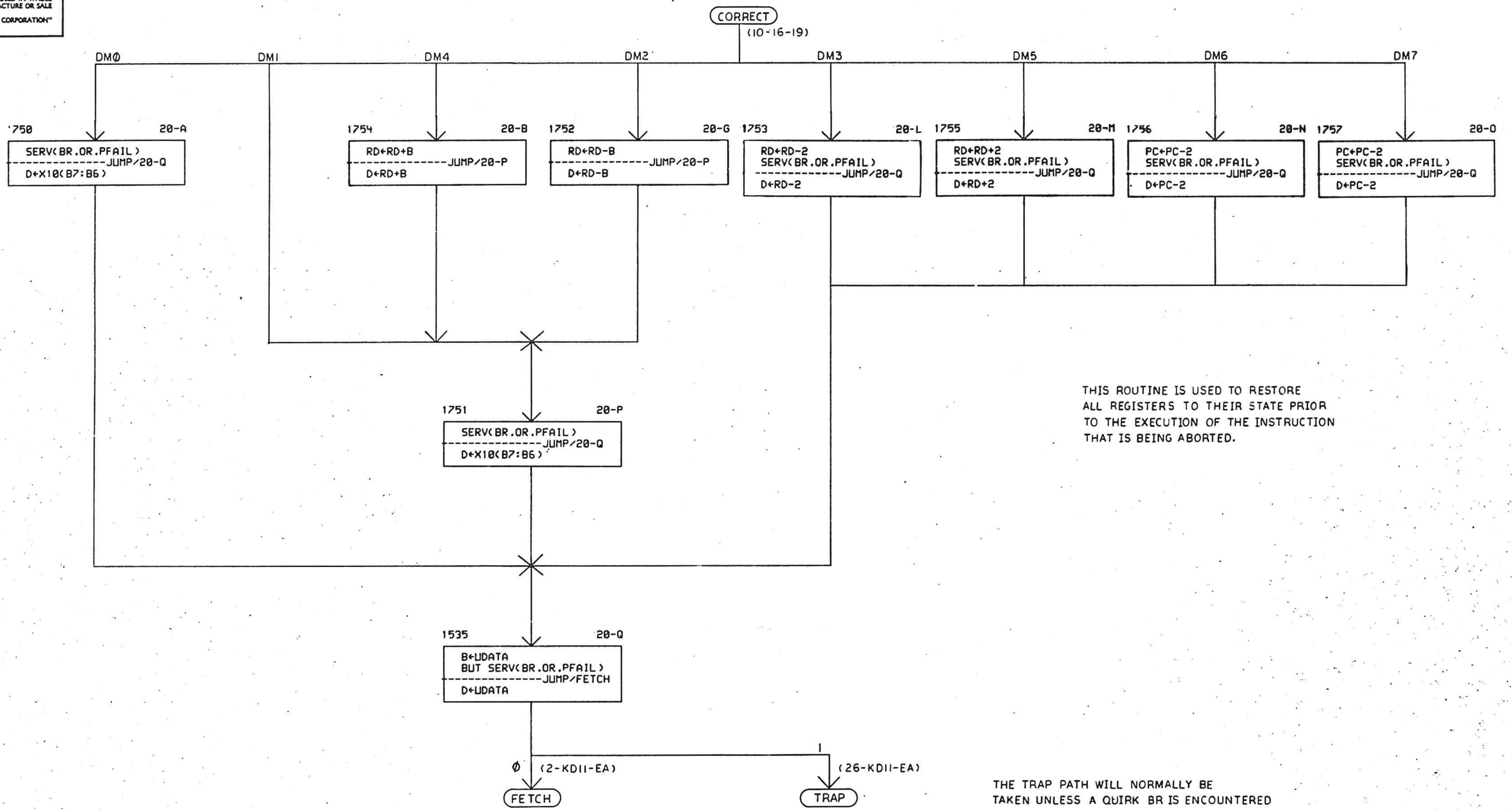
TITLE FPII-A FLOWS (18)
SCALE
SHEET 21 OF 40
SIZE D
CODE FD
NUMBER FPII-A-2
REV.
DIST.



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
FP11-A FLOWS (19)
SCALE
SHEET 22 OF 40
SIZE D
CODE FD
NUMBER FP11-A-2
REV.
DIST.

DEC FORM NO. DRD 138



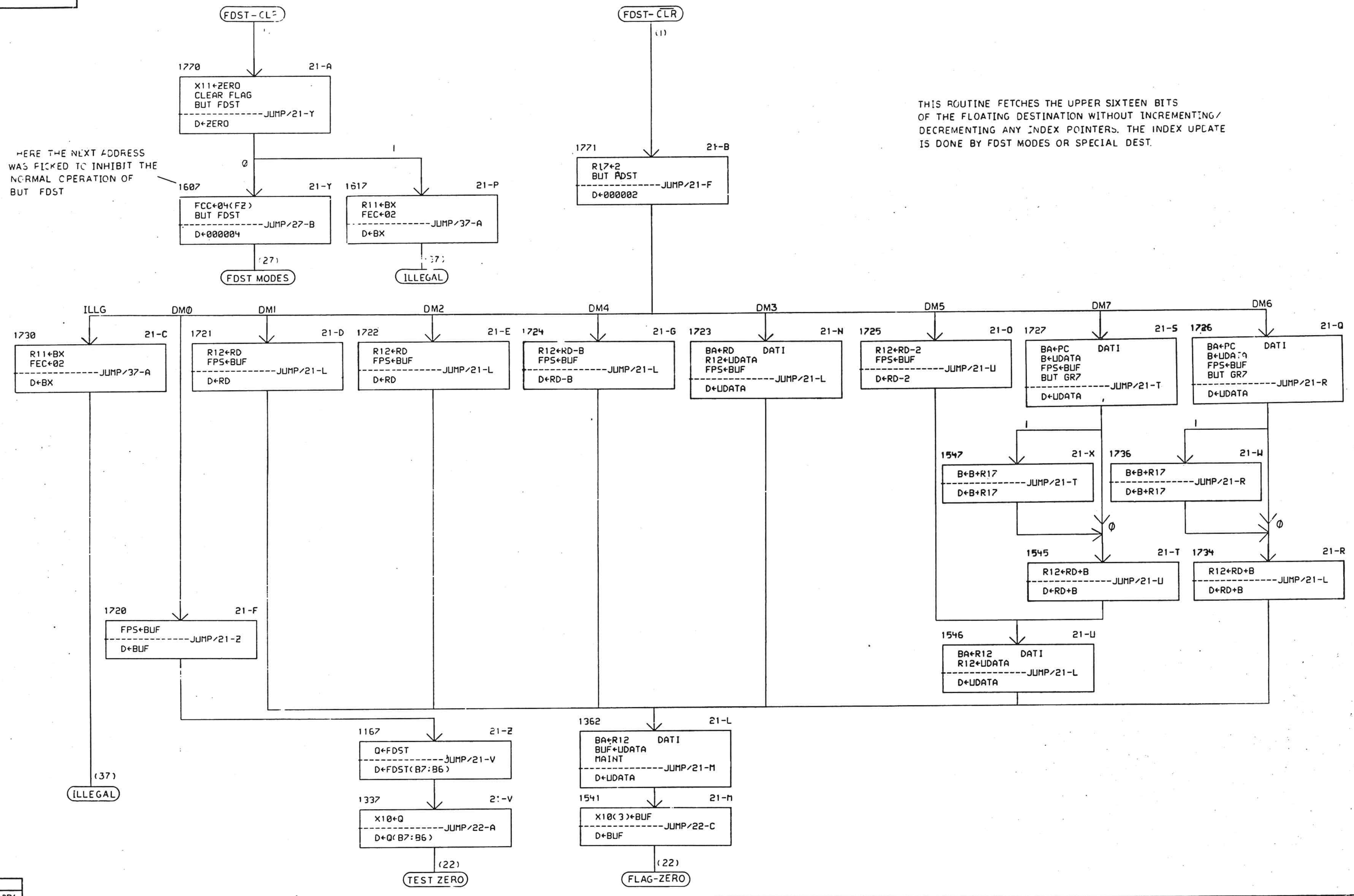
THIS ROUTINE IS USED TO RESTORE
ALL REGISTERS TO THEIR STATE PRIOR
TO THE EXECUTION OF THE INSTRUCTION
THAT IS BEING ABORTED.

THE TRAP PATH WILL NORMALLY BE
TAKEN UNLESS A QUIRK BR IS ENCOUNTERED
(A BR THAT IS ASSERTED AND THAN NEGATED
BEFORE THE PROCESSOR ISSUES A BG)

REVISIONS		
CHK	CHANGE NO.	REV.

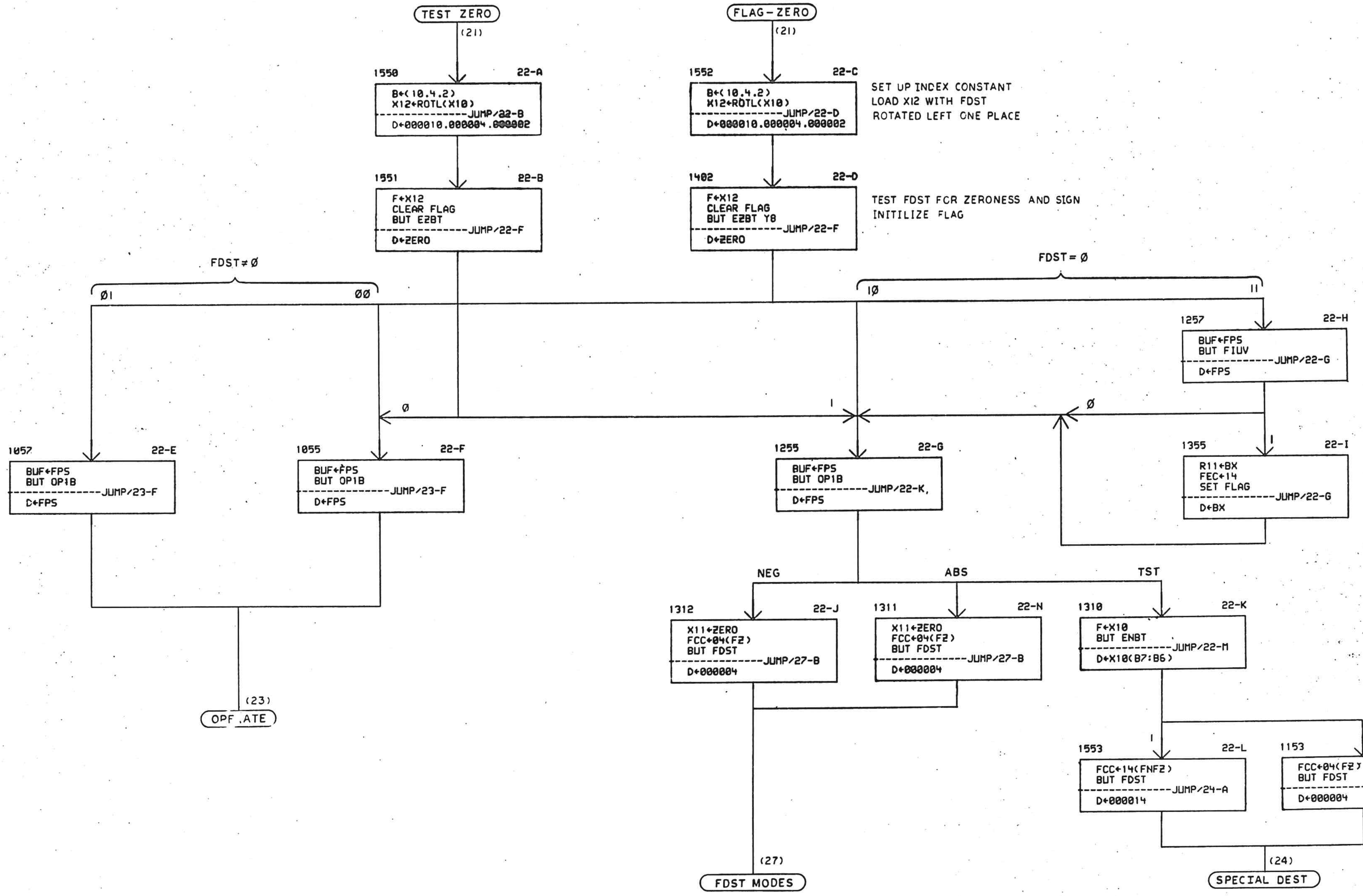
TITLE	SIZE	CODE	NUMBER	REV.
FP11 A FLOWS (20)	D	FD	FP11-A-2	
SCALE ——— SHEET 23 OF 40	DIST.			

THIS ROUTINE FETCHES THE UPPER SIXTEEN BITS OF THE FLOATING DESTINATION WITHOUT INCREMENTING/DECREMENTING ANY INDEX POINTERS. THE INDEX UPDATE IS DONE BY FDST MODES OR SPECIAL DEST.



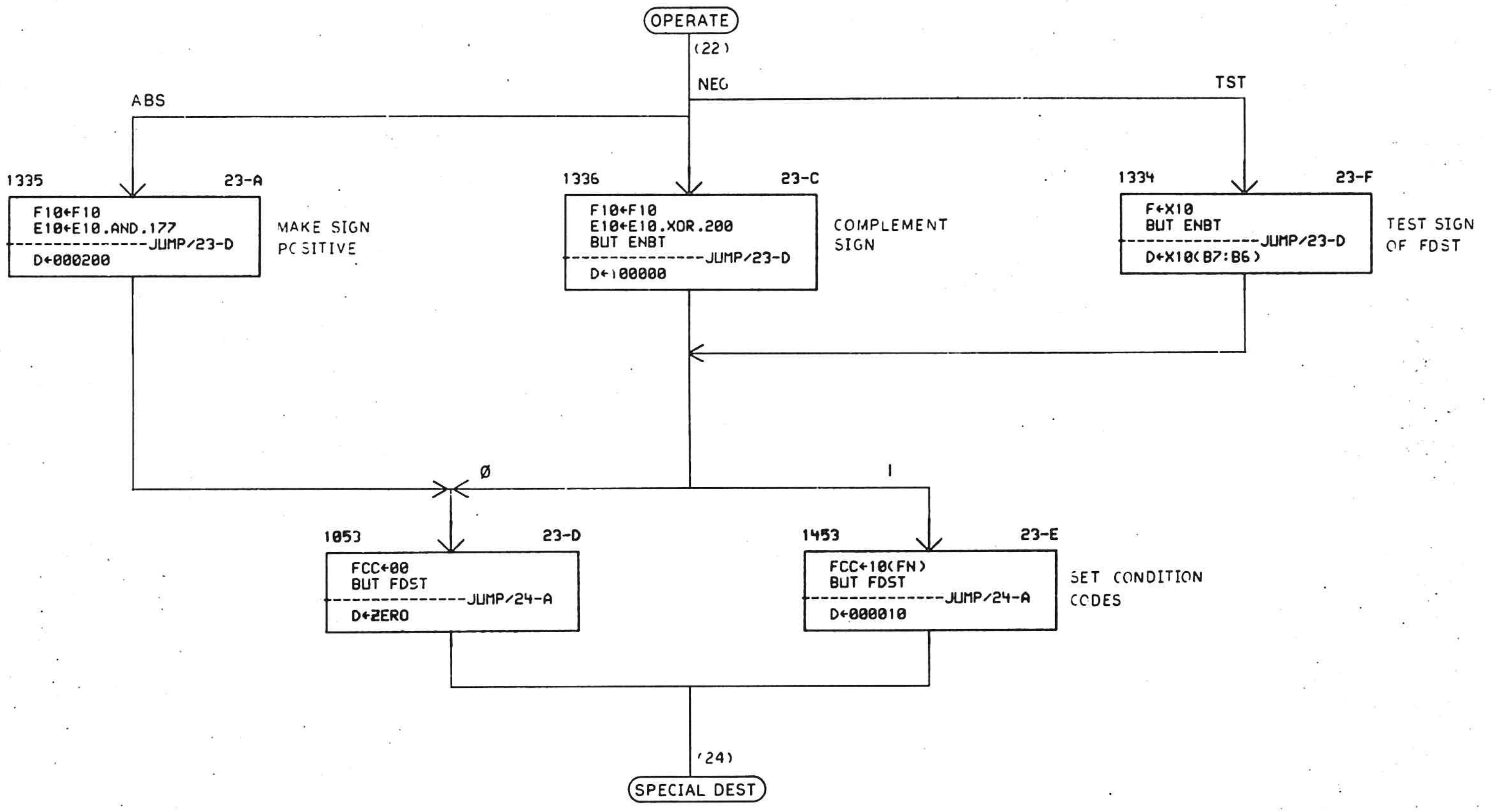
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
FP11-A FLOWS (21)	D	FD	FP11-A-2	
SCALE	SHEET 24 OF 40	DIST.		



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE FP11 A FLOWS (22)
SIZE D CODE FD NUMBER FP11-A-2 REV.
SCALE
SHEET 25 OF 40
DIST.



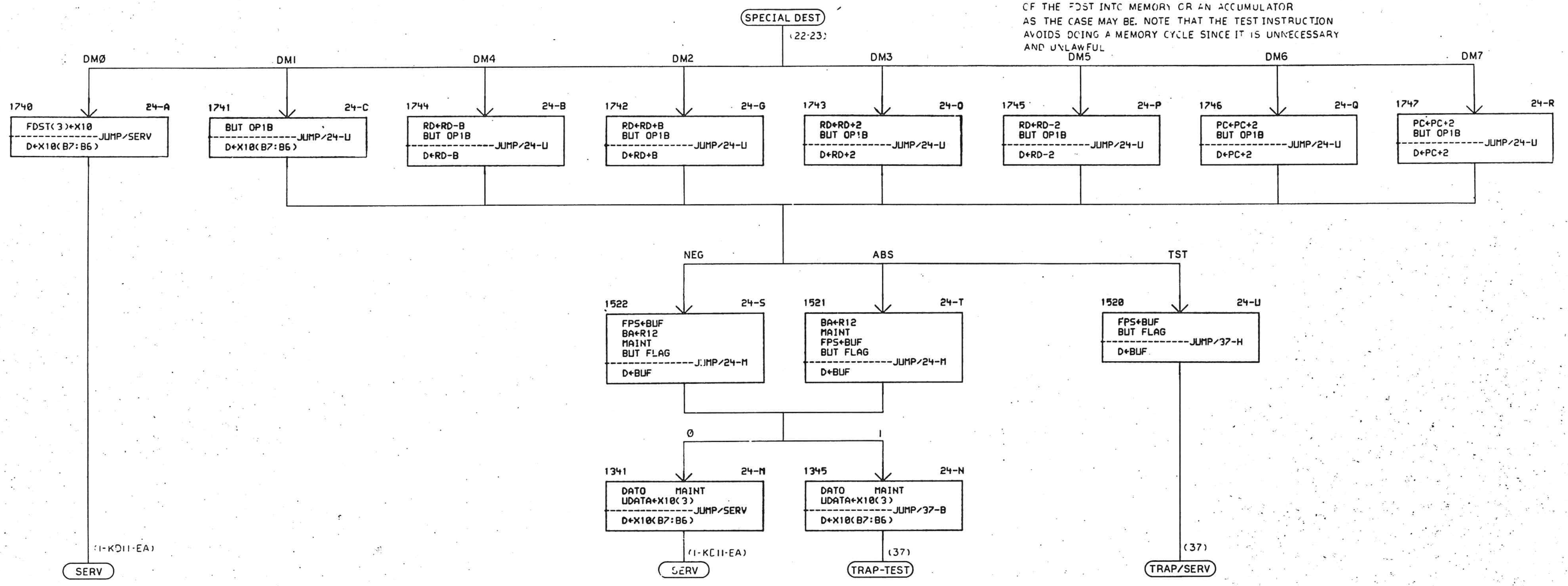
REVISIONS

CHK	CHANGE NO.	REV.

DEC FORM NO. DRD 133

TITLE		SIZE	CODE	NUMBER	REV.
FPII-A FLOWS (23)		D	FD	FPII-A-2	
SCALE	SHEET 26 OF 40	DIST.			

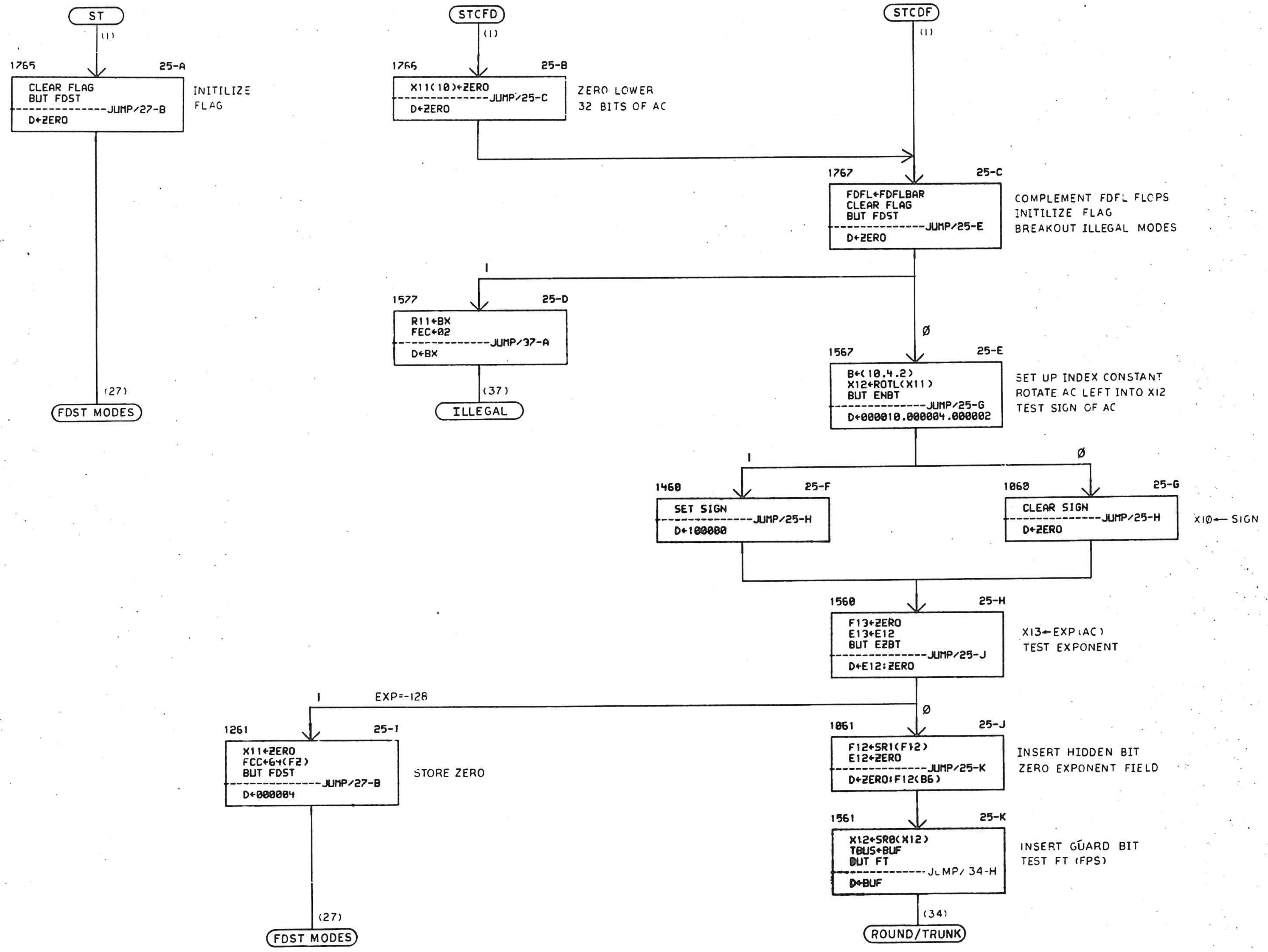
THIS ROUTINE UPDATES THE INDEX REGISTERS AND THEN LOADS THE UPPER SIXTEEN BITS OF THE FDST INTO MEMORY OR AN ACCUMULATOR AS THE CASE MAY BE. NOTE THAT THE TEST INSTRUCTION AVOIDS DOING A MEMORY CYCLE SINCE IT IS UNNECESSARY AND UNLAWFUL



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
FP11-A FLOWS (24)	D	FD	FP11-A-2	
SCALE	SHEET 27 OF 40	DIST.		

DEC FORM NO. DRD 136



REVISIONS

CHK	CHANGE NO.	REV.

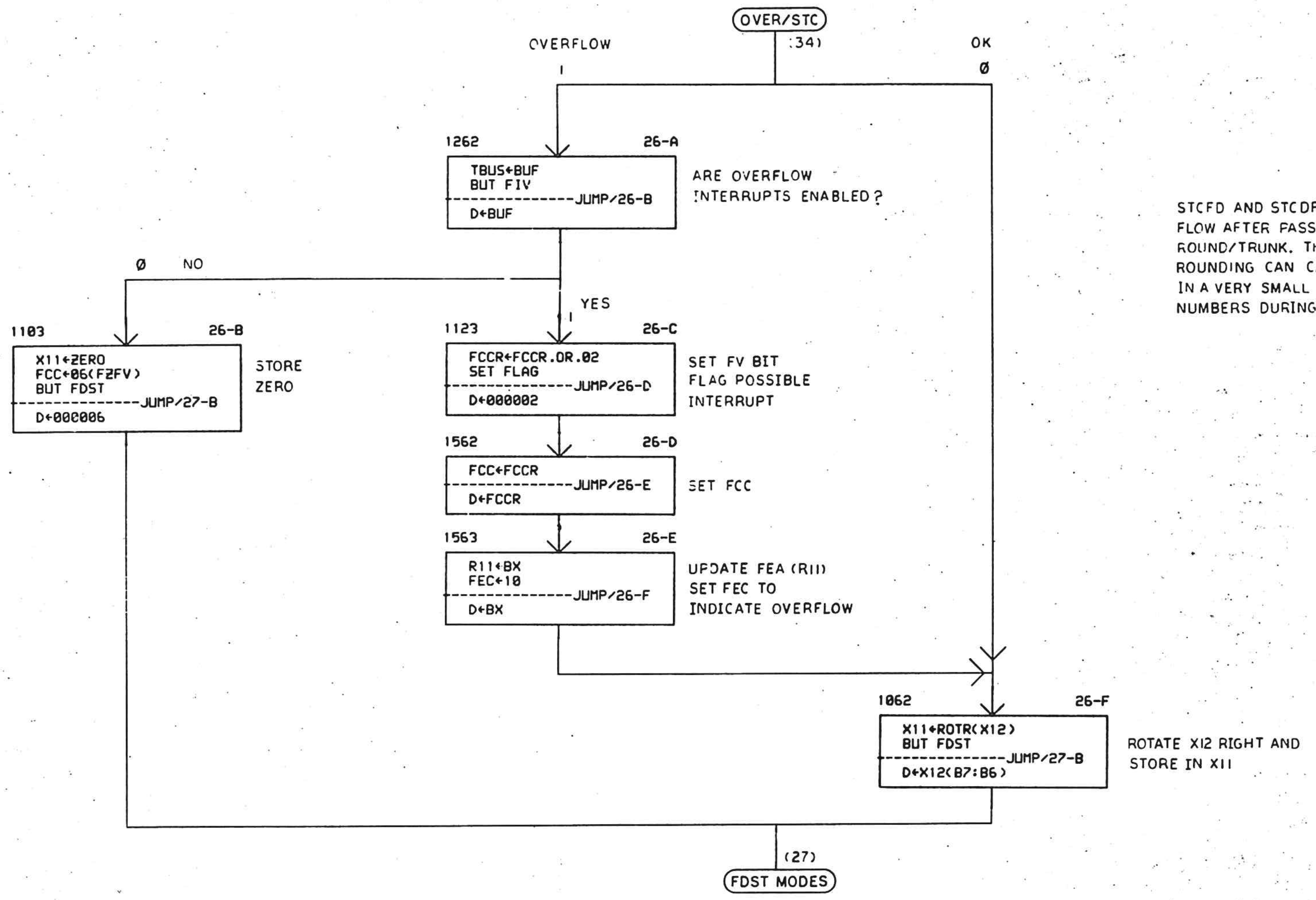
TITLE FP11-A FLOWS (25)

SIZE D CODE FD NUMBER FP11-A-2 REV.

SCALE

SHEET 28 OF 40

DIST.

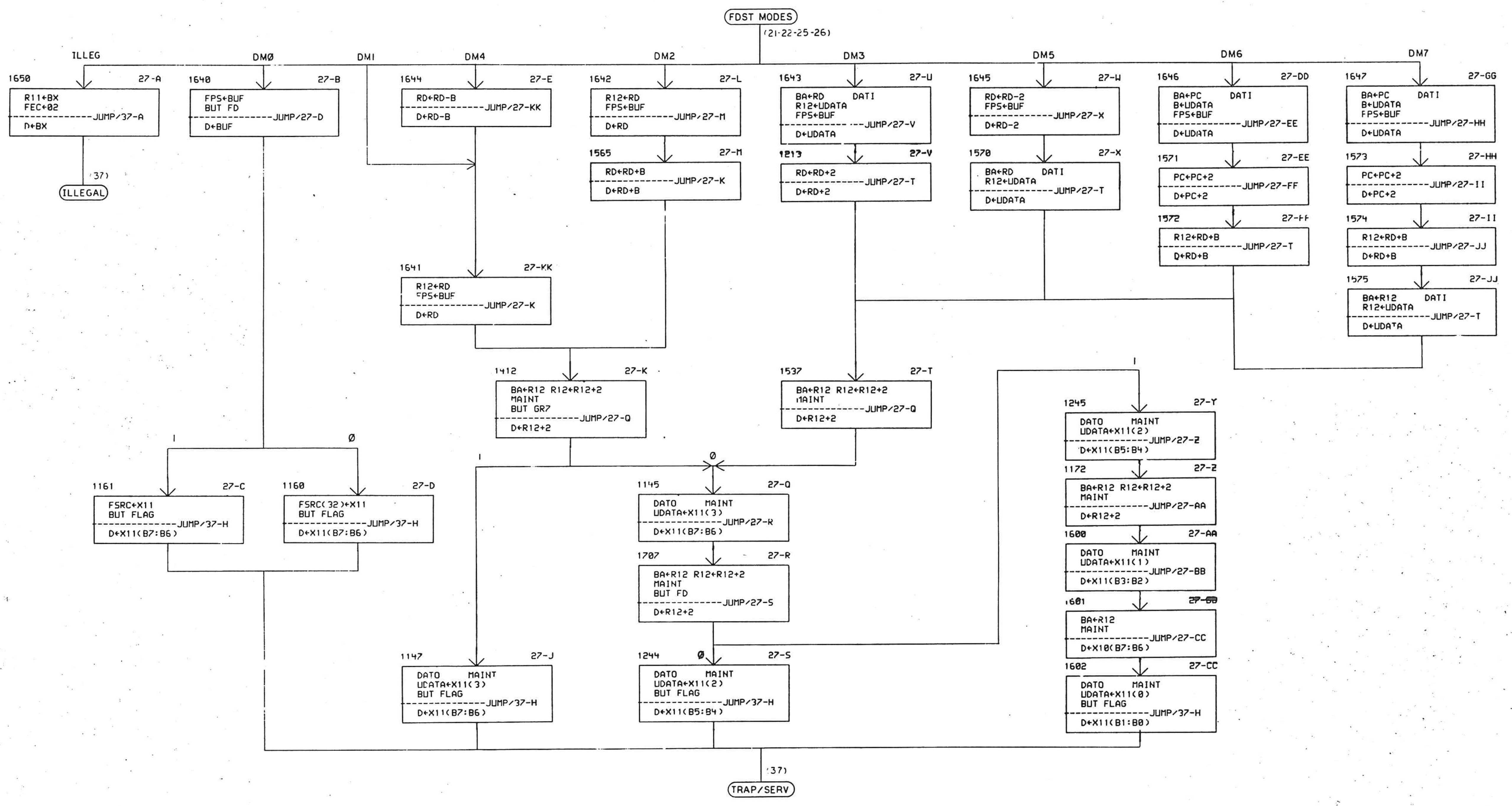


STCFD AND STCDF ENTER THIS FLOW AFTER PASSING THROUGH ROUND/TRUNK. THE PROCESS OF ROUNDING CAN CAUSE AN OVERFLOW IN A VERY SMALL CLASS OF VERY LARGE NUMBERS DURING STCDF (PROBABILITY = $\frac{1}{\infty}$)

REVISIONS

CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
FP11-A FLOWS (26)	D	FD	FP11-A-2	
SCALE — SHEET 29 OF 40	DIST.			



REVISIONS

CHK	CHANGE NO.	REV.

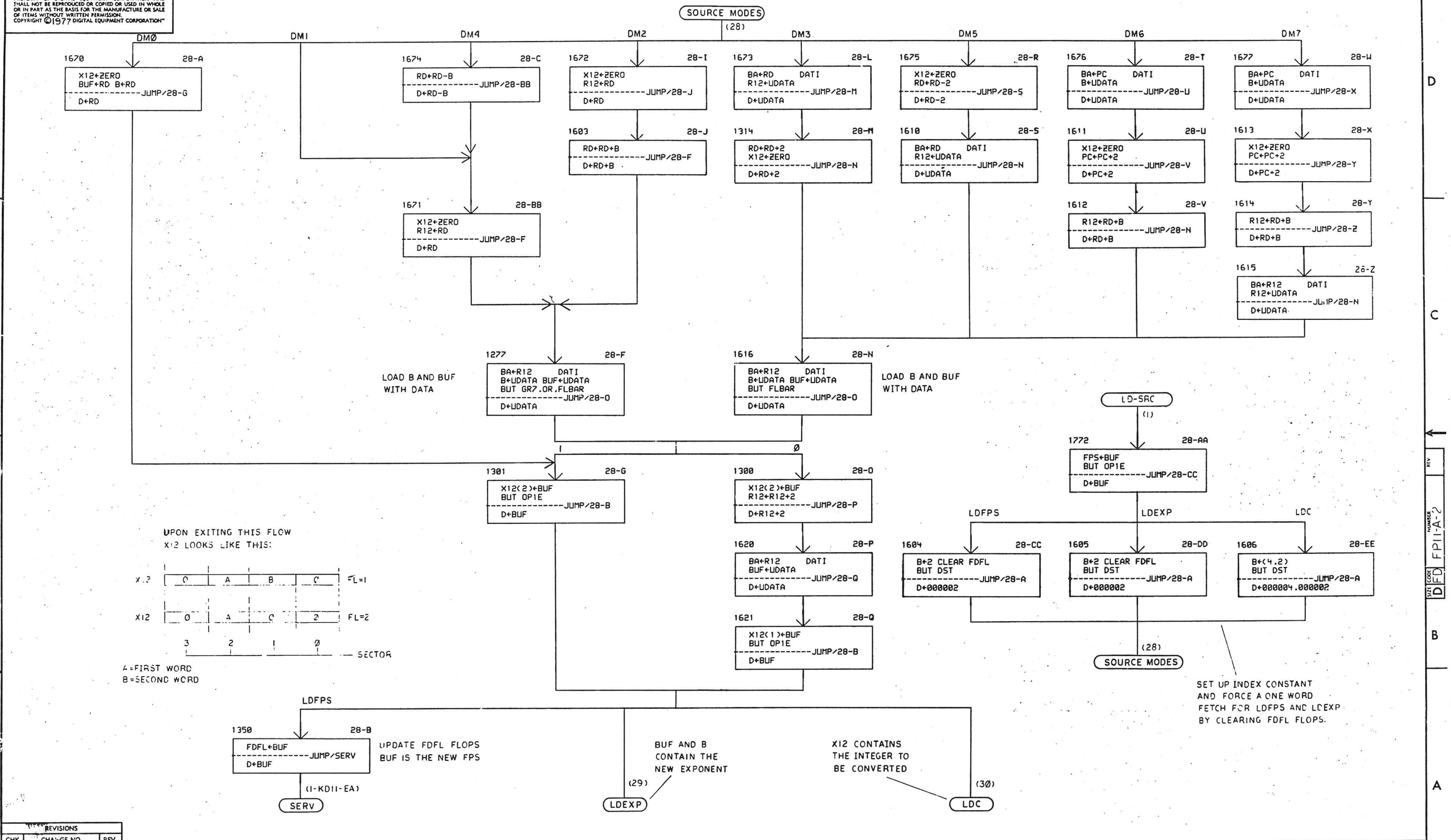
TITLE FP11-A FLOWS (27)

SIZE	CODE	NUMBER	REV.
D	FD	FP11-A-2	

SCALE

SHEET 30 OF 4

DIST.



REVISIONS

CHK	CHANGE NO.	REV.

TITLE FP11-A FLOWS (28)

SIZE D

CODE FD

NUMBER FP11-A-2

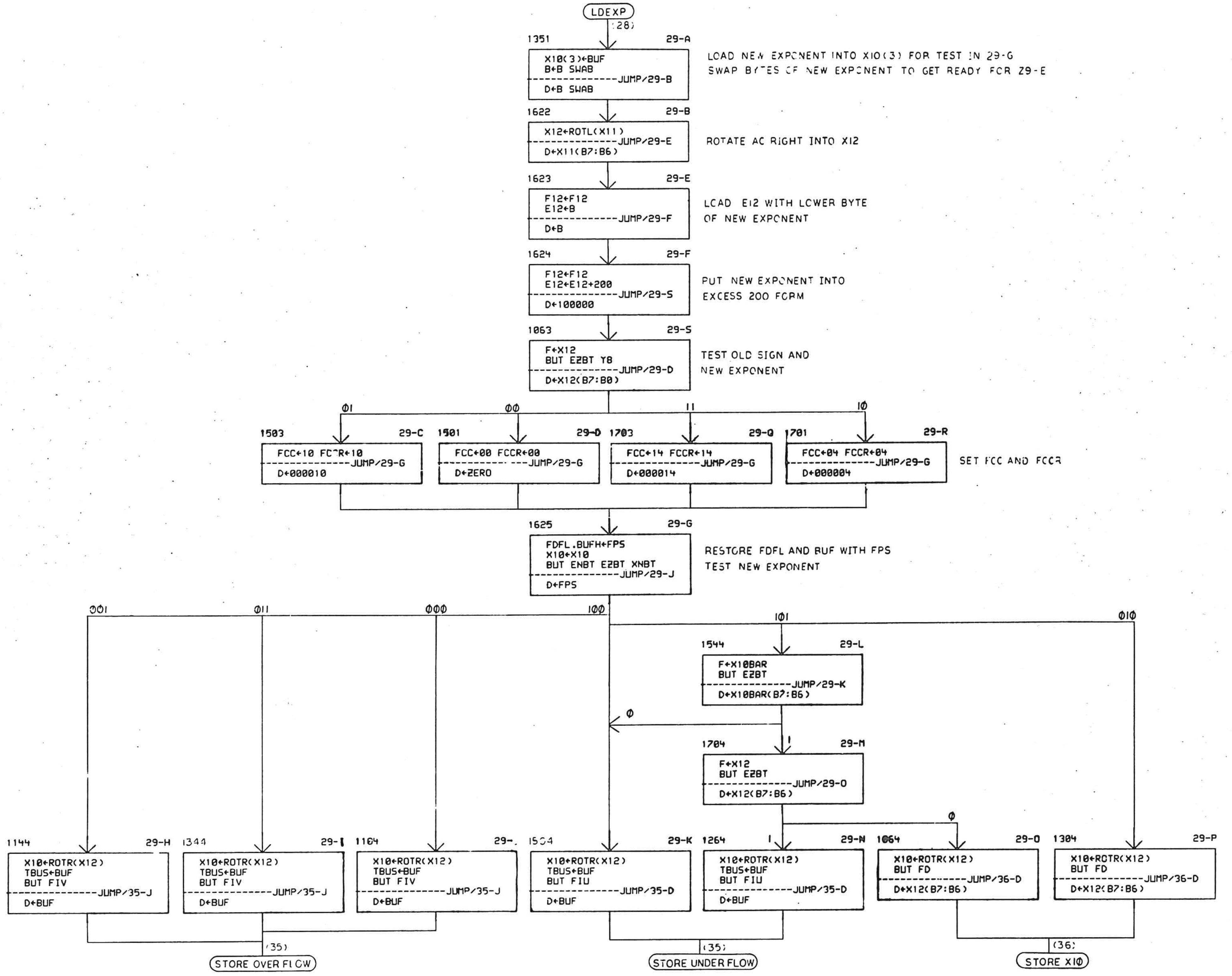
REV.

SCALE

SHEET 31 OF 40

DIST.

DEC FORM NO. DRD 13B



LOAD NEW EXPONENT INTO X10(3) FOR TEST IN 29-G
SWAP BYTES OF NEW EXPONENT TO GET READY FOR 29-E

ROTATE AC RIGHT INTO X12

LOAD E12 WITH LOWER BYTE
OF NEW EXPONENT

PUT NEW EXPONENT INTO
EXCESS 200 FORM

TEST OLD SIGN AND
NEW EXPONENT

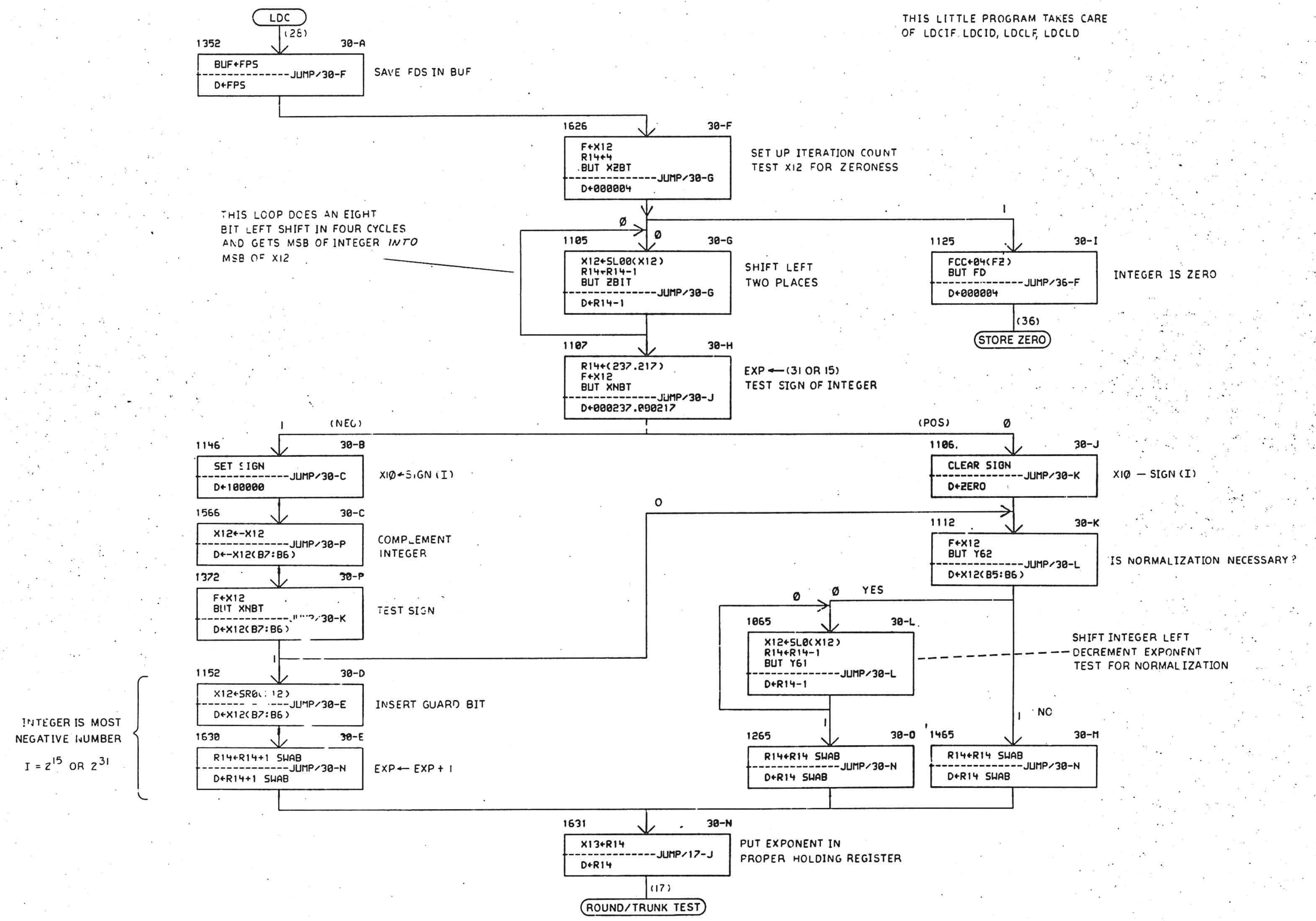
SET FCC AND FCCR

RESTORE FDFL AND BUF WITH FPS
TEST NEW EXPONENT

REVISIONS		
CHK	CHANGE NO.	REV.

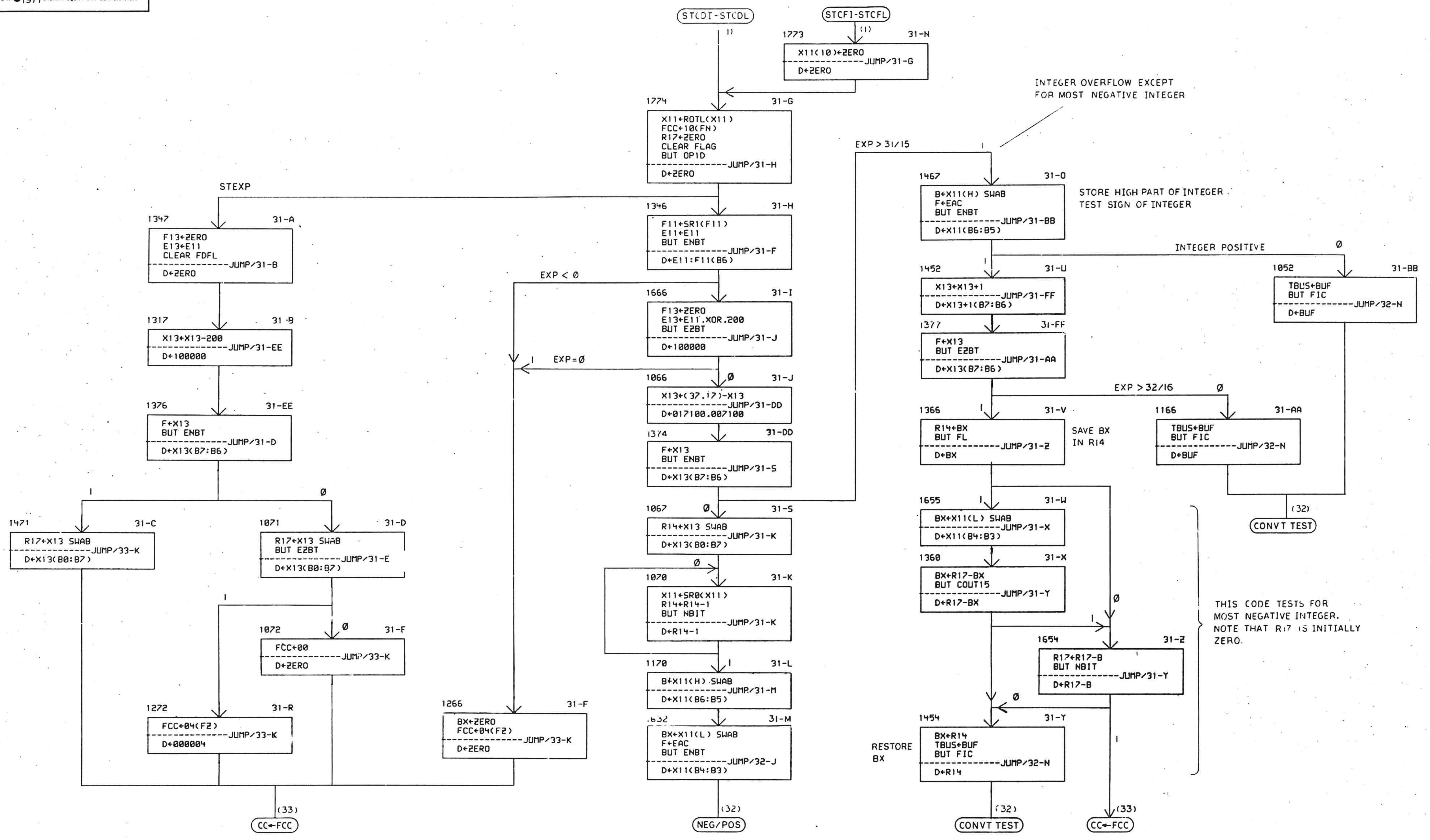
TITLE FP11 A FLOWS (29)
SIZE D
CODE FD
NUMBER FP11-A-2
REV.
SCALE
SHEET 3[illegible] OF 4[illegible]
DIST.

THIS LITTLE PROGRAM TAKES CARE OF LDCIF, LDCID, LDCLF, LDCLD



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE FP11-A FLOWS (30)
SCALE
SHEET 37 OF 40
SIZE D CODE FD NUMBER FP11-A-2 REV.
DIST.

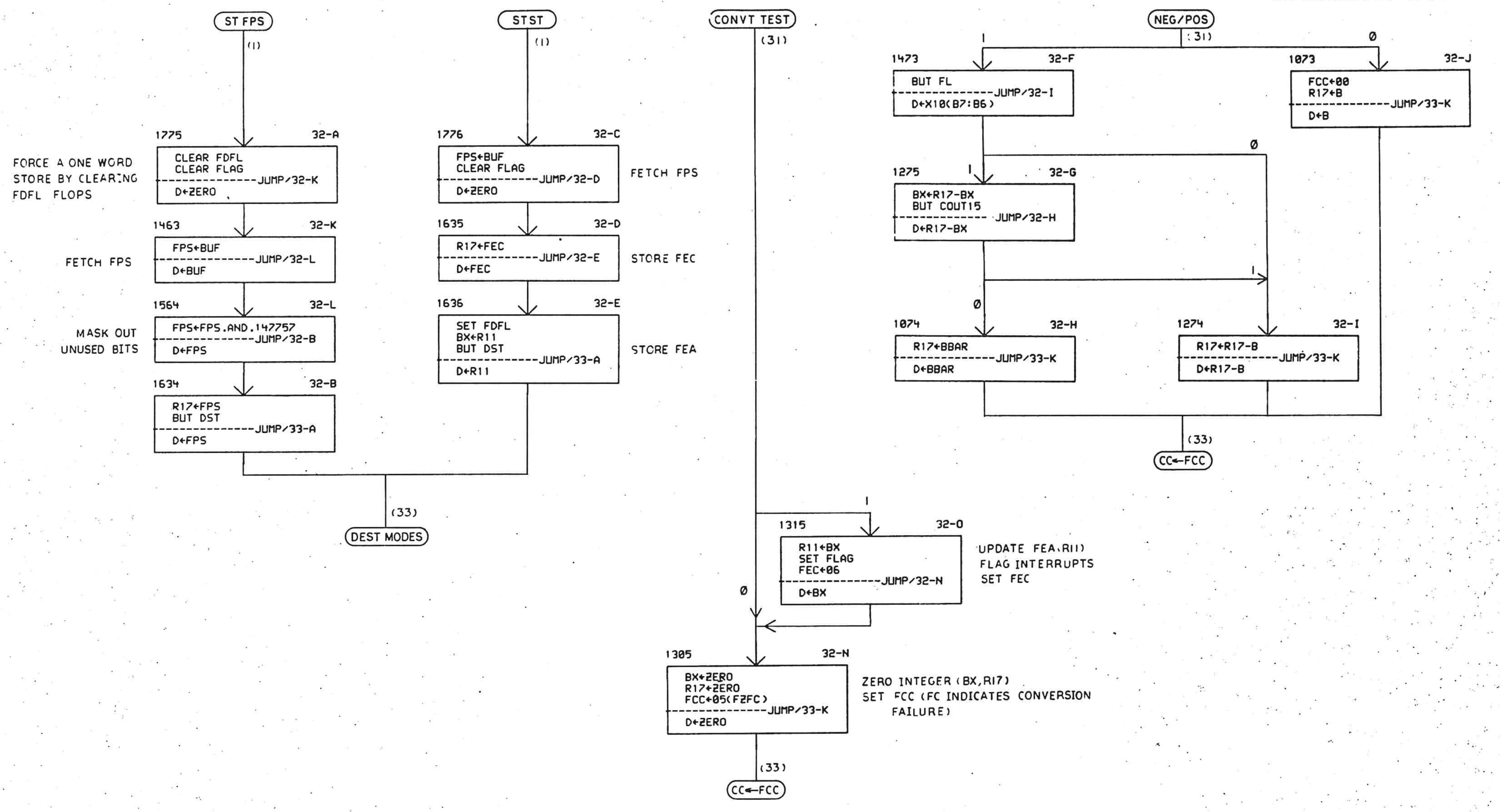


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
FP11-A FLOWS (31)
SIZE D
CODE FD
NUMBER FP11-A-2
REV.
SCALE
SHEET 34 OF 40
DIST.

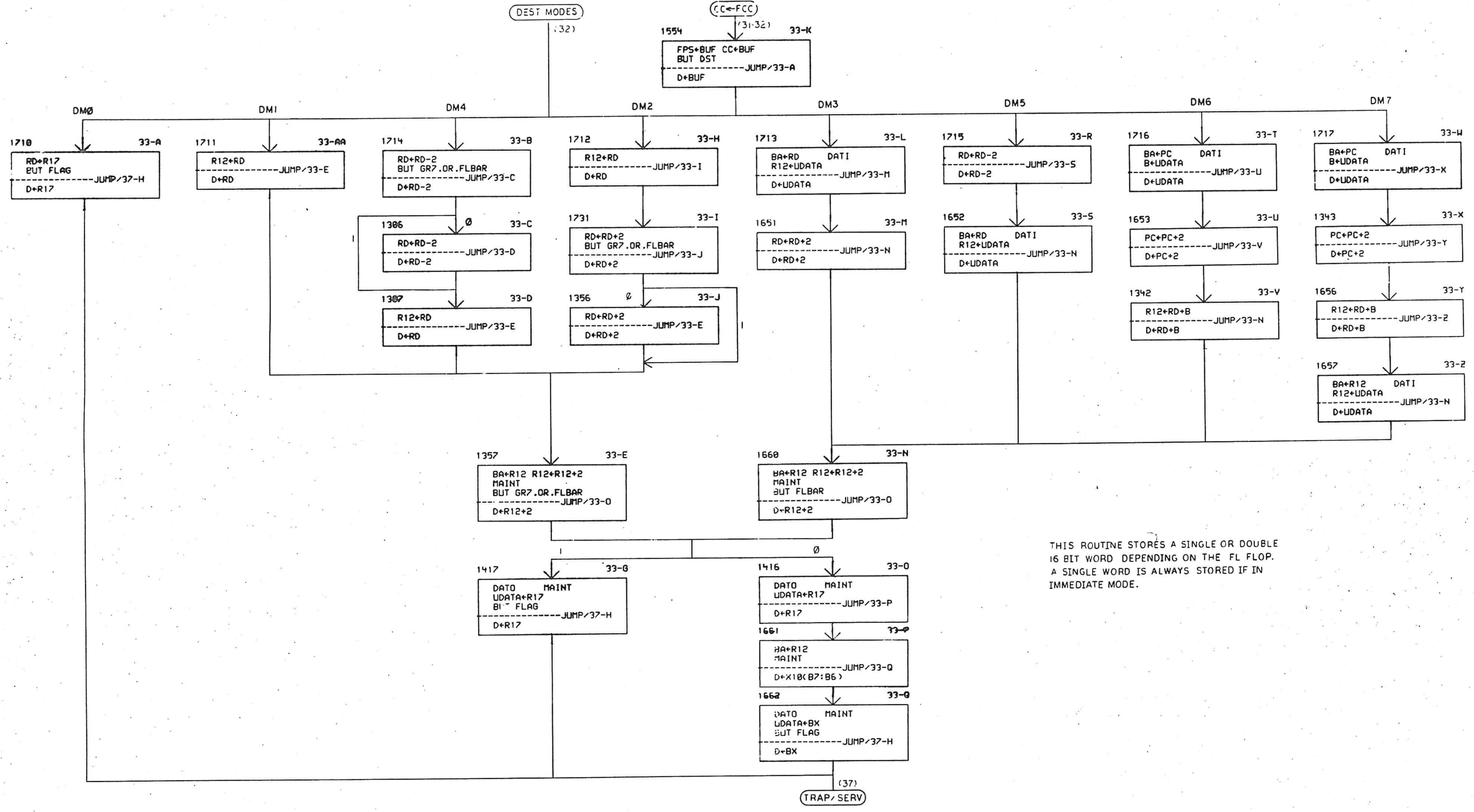
DEC FORM NO. DRD 130

UPON ENTERING THIS ROUTINE, THE INTEGER IS IN B AND BX, R17 CONTAINS ZERO. THE INTEGER IS COMPLEMENTED (IF NECESSARY) AND STORED IN R17 AND BX.



REVISIONS		
CHK	CHANGE NO.	REV.

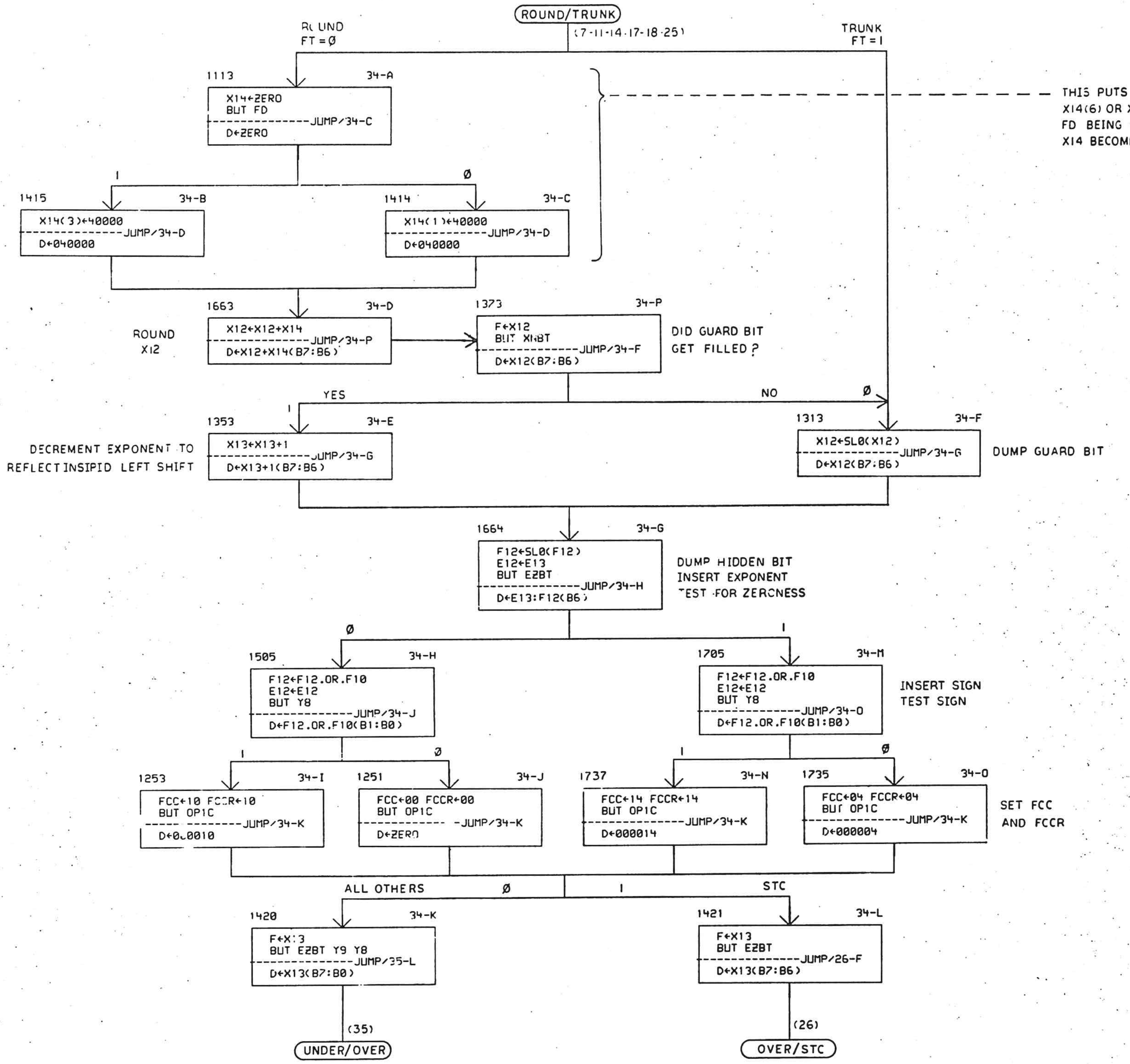
TITLE FP11-A FLOWS (32)
SIZE D CODE FD NUMBER FP11-A-2 REV.
SCALE — SHEET 35 OF 40
DIST.



THIS ROUTINE STORES A SINGLE OR DOUBLE 16 BIT WORD DEPENDING ON THE FL FLOP. A SINGLE WORD IS ALWAYS STORED IF IN IMMEDIATE MODE.

REVISIONS		
CHK	CHANGE NO.	REV.

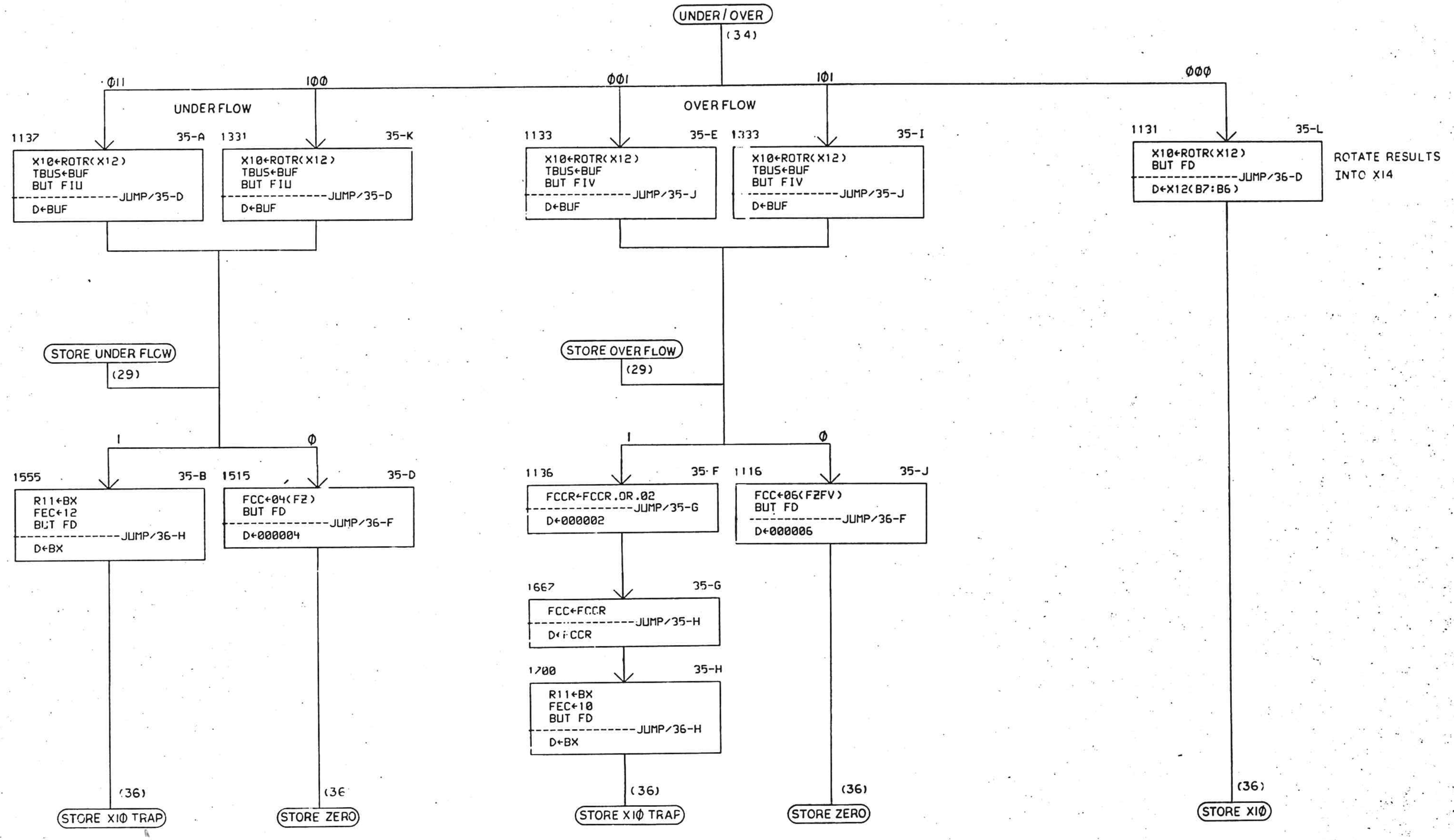
TITLE FP11-A FLCWS (33)
SCALE
SHEET 36 OF 40
SIZE D
CODE FD
NUMBER FP11-A-2
REV
DIST.



THIS PUTS A 'ROUNDING BIT" IN
X14(6) OR X14(38) DEPENDING ON
FD BEING ONE OR ZERO. IN EFFECT,
X14 BECOMES A ROUNDING CONSTANT.

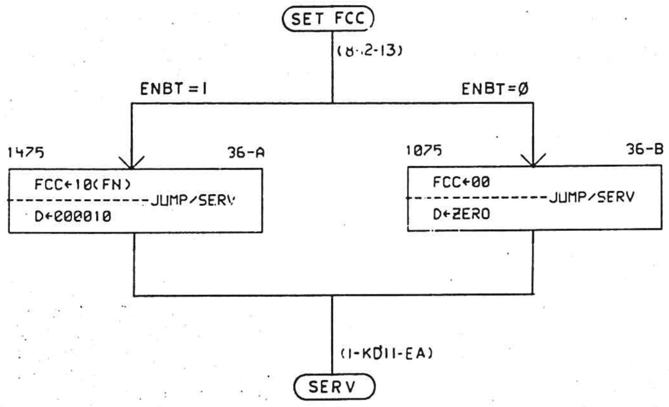
REVISIONS		
CHK	CHANGE NO	REV.

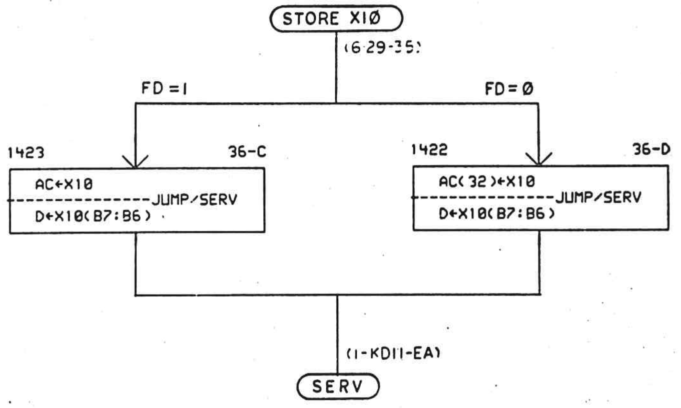
TITLE FPII-A FLOWS (34)
SIZE D
CODE FD
NUMBER FPII-A-2
REV.
SCALE
SHEET 37 OF 40
DIST.

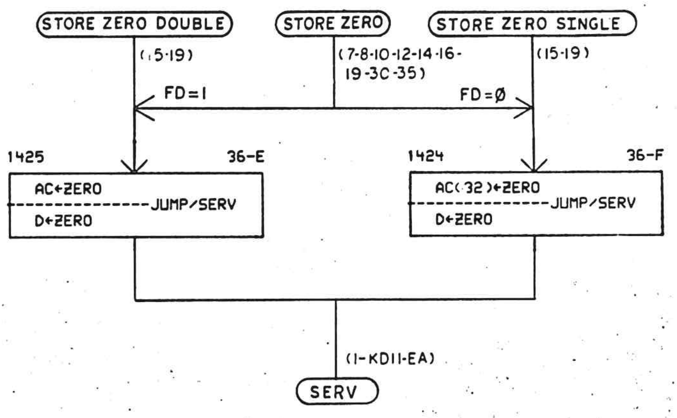


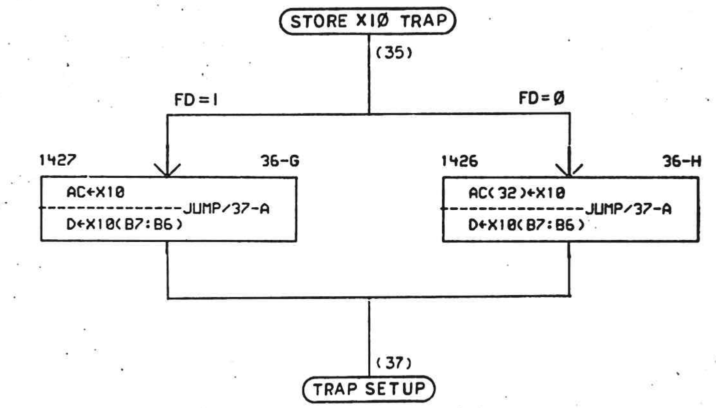
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
FP11-A FLOWS (35)	D	FD	FP11 A 2	
SCALE — - SHEET 38 OF 40	DIST.			





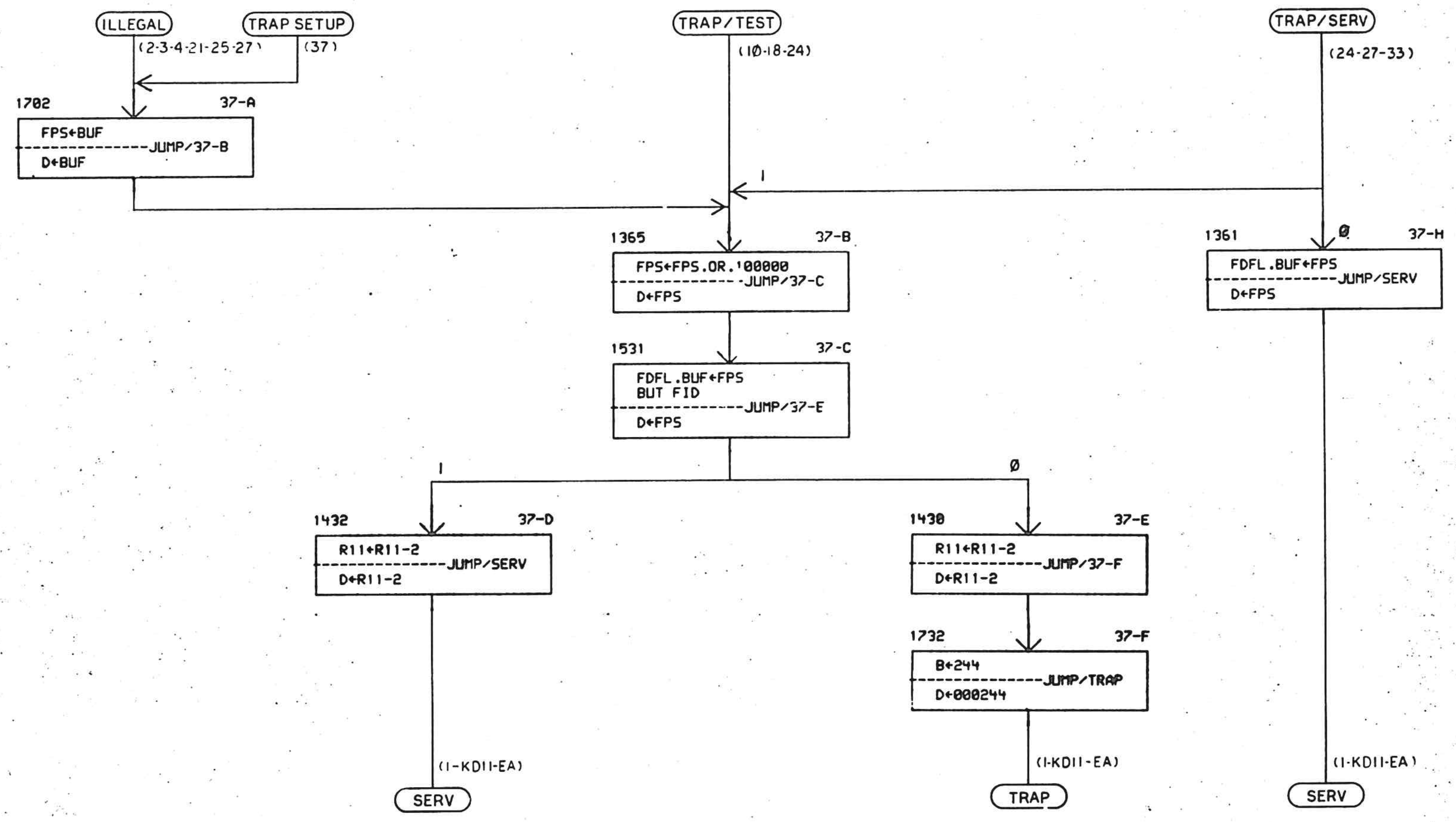




REVISIONS

CHK	CHANGE NO.	REV.

TITLE FP11 A FLOWS (36)
SIZE D CODE FD NUMBER FP11-A-2 REV.
SCALE
SHEET 39 OF 40
DIST.



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
FP11-A FLOWS (37)	D	FD	FP11-A-2	
SCALE ——— SHEET 40 OF 40	DIST.			

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UNIT VARIATIONS COVERED BY THIS PRINT SET

REVISIONS

REV.	CHG. NO.	DATE

USED ON OPTION/MODEL

SHEET I OF 8

DRN. B.C.Blodgett DATE 27 OCT 77
CHK'D DATE 4 NOV 77
PROJ. ENG. J. Mitchell DATE 4 NOV 77
FIELD SERV. DATE 4 NOV 77

digital

TITLE: FP11-A
FLOW DIAGRAMS

SIZE	CODE	NUMBER	REV.
B	FD	FP11-A-5	

DIST.

EN-01124-16-N676-(327)

DRB 124

SIZE B CODE FD NUMBER FP11-A - 3 REV.

MICRO FIELD DEFINITIONS

```
FCTL/=3,6,53,D

        A.AND.B=41
        D.AND.A=45
        A.OR.B=31
        D.OR.A=35
        D.XOR.A=65
        BBAR=73
        QPASS=62
        BPASS=63
        APASS=64
        DPASS=67
        ZERO=42
        ABAR.AND.B=51
        DBAR.AND.A=55
        A+B=1
        D+A=5
        BPLUS=3
        B-1=13
        -B-1=23
        B-A-1=11
        A-D-1=15
        A-B-1=21
        D-A-1=25

ECTL/=3,6,59,D

        A.AND.B=41
        D.AND.A=45
        D.OR.A=35
        A.XOR.B=61
        D.XOR.A=65
        BBAR=73
        QPASS=62
        BPASS=63
        APASS=64
        DPASS=67
        ZERO=42
        ABAR.AND.B=51
        DBAR.AND.A=55
        A+B=1
        D+A=5
        BPLUS=3
        B-1=13
        -B-1=23
        B-A-1=11
        A-D-1=15
        A-B-1=21
        D-A-1=25

ECIN/=0,1,60,D

        ZERO=0
        ONE=1

BSEL/=3,2,62,D

        AC.OR.1=0
        FDST=1
        FSRC=1
        AC=2
        BROM=3

ASEL/=1,1,63,D

        AC=0
        AROM=1

TOUT/=1,1,64,D

        NOP=0
        1134_TBUS=1

DCTL/=0,4,68,D

        NOP=0
        LDBT=1
        LDBF=2
        LDQF=3
        ROTL=4
        ROTR=5
        SLALU0=6
        SR0ALU=7
        SR1ALU=10
        SLALU0.LDBF=11
        SR1ALU.LDBF=12
        SR0ALUQ=14
        SLALU0Q=15

RET/=1,1,69,D

        RETURN=0
        STAY=1

BUT/=0,6,75,D

        NOP=0
        ENBT=54
        EZBT=52
        BUSRQ=55
        FNBT=56
        XZBT=57
        Q8.Q40=60
        COUT63=61
        EZBT.OP1A=13
        FID=41
        EZBT.Y8.Y9=62
        EZBT.Y8=63
        ENBT.Y8=64
        ENBT.EZBT.FNBT=65
        FNBT.XZBT=66
        FIV=42
        Y62=43
        FIU=45
        FIUV=46
        FIC=47
        FT=44
        ENBT.EZBT=67
        Y8=50
        Y61=44
        FD.FIV=2
        Y62.OP1A=3
        BREAKOUT=31
        FD=32
        OP1B=34
        OP1C=35
        OP1D=36
        OP1E=37
        FDST=71
        FSRC=71
        DST=72
        SRC=72
        GR7=73
        GR7.FLBAR=74
        FL=75
        FLBAR=76
        OP2A=77

CONST/=10,6,81,D

        NOP=0
        ZERO=53
        ONES=40
        OCT2=41
        OCT5=42
        OCT4=43
        OCT6=44
        OCT10=45
        OCT12=46
        OCT14=47
        OCT100=50
        OCT200=51
        OCT100000=60
        OCT40000=61
        OCT147757=63
        (143+159)=62
        OCT10.4.2=64
        OCT4.2=65
        FDFLBAR=66
        OCT4.10.2=67
        (56.24)=55
        (57.25)=56
        (58.26)=57
        OCT244=52
        (31.15)=54
        (56.24)*=70
        OCT170000=71
        BYTE10=3
        BYTE32=4
        BYTE43=5
        BYTE54=6
        BYTE65=7
        BYTE76=10
        BYTE07=11

MISC/=11,4,85,D

        TBUS_1134=0
        TBUS_BUF=1
        BUF_TBUS=4
        BUF_1134=5
        FDFL_TBUS=6
        FCC_TBUS=7
        SERV.BR=10
        NOP=11
        FDFL_BUF=12
        FDFL.BUF_TBUS=13
        FDFL.BUFH_TBUS=15
```

TITLE FP11-A FLOW DIAGRAMS	SHEET 2 OF 8	SIZE B	CODE FD	NUMBER FP11-A-5	REV

SIZE B CODE FD NUMBER FP11-A-3 REV.

```
AROM/=0,3,88,D

          AR10=0
          AR11=1
          AR12=2
          AR13=3
          AR14=4
          FCCR=6
          FPS=7

BROM/=0,3,91,D

          BR10=0
          BR11=1
          BR12=2
          BR13=3
          BR14=4
          FEC=5
          FCCR=6
          FPS=7

SECT/=17,4,95,D

          S1=1
          S2=2
          S3=3
          S4=4
          S7=7
          S10=10
          S14=14
          S17=17
```

```
RSPA/=0,4,47,D

          PC=10
          R11=6
          R12=5
          R14=3
          R17=0

FORCE KER/=0,1,43,D

          KER=1

BUT SERV/=0,1,42,D

          SERV=1

PREVIOUS MODE/=1,1,41,D

          ASSERT=0

FORCE RS+1/=1,1,40,D

          RS+1=0

DST SEL/=3,2,39,D

          RD=2
          ROM=0

SRC SEL/=0,2,37,D

          RD=2
          ROM=0
          RBA=3

BUT BITS/=0,4,35,D

          NOP=0
          NBIT=1
          ZBIT=2
          C05=3
          COUT=7
          NBITZBIT=11
          NOSERV=17

AMUX/=1,2,31,D

          UBUS=3
          ALU=1

SSMUX/=0,2,29,D

          STRT=0
          SWAB=2
```

```
BBX CTRL/=0,4,27,D

          HOLD=0
          LOADB=1
          LOADBX=2

ALU BLEG/=5,5,23,D

          ZERO=0
          A+1=2
          A-1=3
          A-B=4
          A=5
          B=6
          A+B=10
          A-BX=22
          A+2=24
          A-2=25
          BX=27
          BBAR=30

AUX CTRL/=0,1,18,D

          AUX=1

CYCLE/=1,1,17,D

          SHORT=1
          LONG=0

LOAD BA/=0,1,16,D

          BA=1

ENAB MAINT/=0,1,15,D

          MAINT=1

BUS CTRL/=0,2,14,D

          DATI=0
          DATO=2

DATA TRAN/=0,1,12,D

          TRAN=1

MISC CTRL/=0,3,11,D

          NOP=0
          LOADCC=3
          LOADC=6
          COUNT=7

J/=0,9,8,+
```

TITLE	SHEET	SIZE	CODE	NUMBER	REV
FP11-A FLOW DIAGRAMS	3 OF 8	B	FD	FP11-A-5	

FP11A MACRO DEFINITIONS

```
AC(32)_X10               "FCTL/APASS,ECTL/APASS,DCTL/LDBF,BSEL/AC,AROM/AR10,SECT/S14"
AC(32)_ZERO              "FCTL/ZERO,ECTL/ZERO,DCTL/LDBF,BSEL/AC,SECT/S14"
AC.OR.1(32)_X12          "FCTL/APASS,ECTL/APASS,DCTL/LDBF,BSEL/AC.OR.1,AROM/AR12,SECT/S14"
AC.OR.1(32)_X14          "FCTL/APASS,ECTL/APASS,DCTL/LDBF,BSEL/AC.OR.1,AROM/AR14,SECT/S14"
AC.OR.1(32)_ZERO         "FCTL/ZERO,ECTL/ZERO,DCTL/LDBF,BSEL/AC.OR.1,SECT/S14"
AC.OR.1_X12              "FCTL/APASS,ECTL/APASS,DCTL/LDBF,BSEL/AC.OR.1,AROM/AR12"
AC.OR.1_X14              "FCTL/APASS,ECTL/APASS,DCTL/LDBF,BSEL/AC.OR.1,AROM/AR14"
AC.OR.1_ZERO             "FCTL/ZERO,ECTL/ZERO,DCTL/LDBF,BSEL/AC.OR.1"
AC_X10                   "FCTL/APASS,ECTL/APASS,DCTL/LDBF,BSEL/AC,AROM/AR10"
AC_ZERO                  "FCTL/ZERO,ECTL/ZERO,DCTL/LDBF,BSEL/AC"
BA_PC                    "LOAD BA/BA,RSPA/PC"
BA_R12                   "LOAD BA/BA,RSPA/R12"
BA_R12 R12_R12+2         "LOAD BA/BA,DST SEL/ROM,RSPA/R12,ALU BLEG/A+2,TOUT/NOP"
BA_RD                    "LOAD BA/BA,SRC SEL/RD"
BUF_FPS                  "FCTL/BPASS,ECTL/BPASS,CONST/BYTE10,MISC/BUF_TBUS,BROM/FPS"
BUF_RD B_RD              "MISC/BUF_1134,BBX CTRL/LOADB,SRC SEL/RD,TOUT/NOP,CONST/NOP"
BUF_UDATA                "MISC/BUF_1134,AMUX/UBUS,TOUT/NOP,CONST/NOP"
BUT (Q8.Q40)             "BUT/Q8.Q40,CYCLE/LONG"
BUT (Q8.Q40) ZBIT        "BUT/Q8.Q40,BUT BITS/ZBIT,CYCLE/LONG"
BUT BR.OR.PFAIL          "BUT/BUSRQ,CYCLE/LONG"
BUT BREAKOUT             "BUT/BREAKOUT"
BUT COUT15               "BUT BITS/COUT,CYCLE/LONG"
BUT COUT63 ZBIT          "BUT/COUT63,BUT BITS/ZBIT,CYCLE/LONG"
BUT DST                  "BUT/DST"
BUT ENBT                 "BUT/ENBT,CYCLE/LONG"
BUT ENBT EZBT            "BUT/ENBT.EZBT,CYCLE/LONG"
BUT ENBT EZBT XNBT       "BUT/ENBT.EZBT.FNBT,CYCLE/LONG"
BUT ENBT Y8              "BUT/ENBT.Y8,CONST/BYTE07,CYCLE/LONG"
BUT EZBT                 "BUT/EZBT,CYCLE/LONG"
BUT EZBT OP1A            "BUT/EZBT.OP1A,CYCLE/LONG"
BUT EZBT Y8              "BUT/EZBT.Y8,CONST/BYTE07,CYCLE/LONG"
BUT EZBT Y9 Y8           "BUT/EZBT.Y8.Y9,CONST/BYTE07,CYCLE/LONG"
BUT FD                   "BUT/FD"
BUT FDST                 "BUT/FDST"
BUT FIC                  "BUT/FIC,CYCLE/LONG"
BUT FID                  "BUT/FID,CYCLE/LONG"
BUT FIU                  "BUT/FIU,CYCLE/LONG"
BUT FIUV                 "BUT/FIUV,CYCLE/LONG"
BUT FIV                  "BUT/FIV,CYCLE/LONG"
BUT FIV FD               "BUT/FD.FIV,CYCLE/LONG"
BUT FL                   "BUT/FL"
BUT FLAG                 "BUT BITS/C05"
BUT FLBAR                "BUT/FLBAR"
BUT FSRC                 "BUT/FSRC"
BUT FT                   "BUT/FT,CYCLE/LONG"
BUT GR7                  "BUT/GR7"
BUT GR7.OR.FLBAR         "BUT/GR7.FLBAR"
BUT NBIT                 "BUT BITS/NBIT,CYCLE/LONG"
BUT NBIT ZBIT            "BUT BITS/NBITZBIT,CYCLE/LONG"
BUT NOSERV               "BUT BITS/NOSERV"
BUT OP1B                 "BUT/OP1B"
BUT OP1C                 "BUT/OP1C"
BUT OP1D                 "BUT/OP1D"
```

TITLE		SIZE	CODE	NUMBER	REV
FP11-A FLOWS	SHEET 4 OF 8	B	FD	FP11-A-5	

```
BUT OP1E                  "BUT/OP1E"
BUT OP2A                  "BUT/OP2A"
BUT SERV(BR.OR.PFAIL)     "BUT SERV/SERV,MISC/SERV.BR"
BUT SRC                   "BUT/SRC"
BUT XNBT                  "BUT/FNBT,CYCLE/LONG"
BUT XNBT XZBT             "BUT/FNBT.XZBT,CYCLE/LONG"
BUT XZBT                  "BUT/XZBT,CYCLE/LONG"
BUT Y61                   "BUT/Y61,CONST/BYTE65,CYCLE/LONG"
BUT Y62                   "BUT/Y62,CONST/BYTE65,CYCLE/LONG"
BUT Y62 OP1A              "BUT/Y62.OP1A,CONST/BYTE65,CYCLE/LONG"
BUT Y8                    "BUT/Y8,CONST/BYTE10,CYCLE/LONG"
BUT ZBIT                  "BUT BITS/ZBIT,CYCLE/LONG"
BX_R11                    "BBX CTRL/LOADBX,RSPA/R11,TOUT/NOP"
BX_R14                    "BBX CTRL/LOADBX,RSPA/R14,TOUT/NOP"
BX_R17-BX                 "BBX CTRL/LOADBX,RSPA/R17,ALU BLEG/A-BX,TOUT/NOP"
BX_X11(L) SWAB            "FCTL/BPASS,ECTL/BPASS,CONST/BYTE43,BROM/BR11,BBX CTRL/LOADBX,SSMUX/SWAB"
BX_X11(L) SWAB F_EAC      "FCTL/BPASS,ECTL/APASS,ASEL/AC,CONST/BYTE43,BROM/BR11,BBX CTRL/LOADBX,SSMUX/SWAB"
BX_ZERO                   "BBX CTRL/LOADBX,ALU BLEG/ZERO,TOUT/NOP"
B_(10.4.2)                "CONST/OCT10.4.2,BBX CTRL/LOADB"
B_(4.10.2)                "CONST/OCT4.10.2,BBX CTRL/LOADB"
B_(4.2)                   "CONST/OCT4.2,BBX CTRL/LOADB"
B_2 CLEAR FDFL            "CONST/OCT2,MISC/FDFL_TBUS,BBX CTRL/LOADB"
B_244                     "CONST/OCT244,BBX CTRL/LOADB"
B_B SWAB                  "BBX CTRL/LOADB,ALU BLEG/B,SSMUX/SWAB,TOUT/NOP"
B_B+R17                   "DST SEL/ROM,RSPA/R17,ALU BLEG/A+B,BBX CTRL/LOADB,TOUT/NOP"
B_R17                     "BBX CTRL/LOADB,RSPA/R17,TOUT/NOP"
B_UDATA                   "BBX CTRL/LOADB,AMUX/UBUS,TOUT/NOP"
B_UDATA BUF_UDATA         "BBX CTRL/LOADB,AMUX/UBUS,MISC/BUF_1134,TOUT/NOP,CONST/NOP"
B_X11(H) SWAB             "FCTL/BPASS,ECTL/BPASS,CONST/BYTE65,BROM/BR11,BBX CTRL/LOADB,SSMUX/SWAB"
B_X11(H) SWAB F_EAC       "FCTL/BPASS,ECTL/APASS,ASEL/AC,CONST/BYTE65,BROM/BR11,BBX CTRL/LOADB,SSMUX/SWAB"
B_X13-X14 SWAB            "BBX CTRL/LOADB,FCTL/A-B-1,ECTL/A-B-1,ECIN/ONE,CONST/BYTE07,AROM/AR13,BROM/BR14,SSMUX/SWAB,CYCLE/LONG"
B_X14-X13 SWAB            "BBX CTRL/LOADB,FCTL/B-A-1,ECTL/B-A-1,ECIN/ONE,CONST/BYTE07,AROM/AR13,BROM/BR14,SSMUX/SWAB,CYCLE/LONG"
CC_FCC                    "MISC/TBUS_BUF,MISC CTRL/LOADCC,CONST/NOP"
CLEAR FD(FPS)             "FCTL/DBAR.AND.A,ECTL/DBAR.AND.A,DCTL/LDBF,CONST/OCT200,AROM/FPS,BROM/FPS"
CLEAR FDFL                "CONST/ZERO,MISC/FDFL_TBUS"
CLEAR FL(FPS)             "FCTL/DBAR.AND.A,ECTL/DBAR.AND.A,DCTL/LDBF,CONST/OCT100,AROM/FPS,BROM/FPS"
CLEAR FLAG                "MISC CTRL/LOADC,ALU BLEG/ZERO,TOUT/NOP"
CLEAR SIGN                "FCTL/ZERO,ECTL/ZERO,DCTL/LDBF,BROM/BR10"
CLEAR SIGN T_X12          "FCTL/ZERO,ECTL/ZERO,DCTL/LDBT,AROM/AR12,BROM/BR10"
DATI                      "DATA TRAN/TRAN"
DATO                      "DATA TRAN/TRAN,BUS CTRL/DATO,CYCLE/LONG"
F10_F10 E10_E10.AND.177   "FCTL/BPASS,ECTL/DBAR.AND.A,DCTL/LDBF,CONST/OCT100000,AROM/AR10,BROM/BR10"
F10_F10 E10_E10.XOR.200   "FCTL/BPASS,ECTL/D.XOR.A,DCTL/LDBF,CONST/OCT100000,AROM/AR10,BROM/BR10"
F11_SR1(F11) E11_E11      "FCTL/BPASS,ECTL/BPASS,DCTL/SR1ALU.LDBF,BROM/BR11"
F11_SR1(F11) E11_ZERO     "FCTL/BPASS,ECTL/ZERO,DCTL/SR1ALU.LDBF,BROM/BR11"
F12_F12 E12_B             "FCTL/BPASS,ECTL/DPASS,DCTL/LDBF,MISC/TBUS_1134,BROM/BR12,ALU BLEG/B,TOUT/NOP,CONST/NOP"
F12_F12 E12_E12+200       "FCTL/BPASS,ECTL/D+A,DCTL/LDBF,CONST/OCT100000,AROM/AR12,BROM/BR12,CYCLE/LONG"
F12_F12 E12_E12.AND.360   "FCTL/BPASS,ECTL/D.AND.A,DCTL/LDBF,CONST/OCT170000,AROM/AR12,BROM/BR12"
F12_F12.OR.F10 E12_E12    "FCTL/A.OR.B,ECTL/BPASS,DCTL/LDBF,AROM/AR10,BROM/BR12"
F12_SL0(F12) E12_E13      "FCTL/BPASS,ECTL/APASS,DCTL/SLALU0.LDBF,AROM/AR13,BROM/BR12"
F12_SR1(F12) E12_ZERO     "FCTL/BPASS,ECTL/ZERO,DCTL/SR1ALU.LDBF,BROM/BR12"
F13_ZERO E13_E11          "FCTL/ZERO,ECTL/APASS,DCTL/LDBF,AROM/AR11,BROM/BR13"
F13_ZERO E13_E11.XOR.200        "FCTL/ZERO,ECTL/D.XOR.A,DCTL/LDBF,CONST/OCT100000,AROM/AR11,BROM/BR13"
F13_ZERO E13_E12          "FCTL/ZERO,ECTL/APASS,DCTL/LDBF,AROM/AR12,BROM/BR13"
F13_ZERO E13_E12 T_X12    "FCTL/ZERO,ECTL/APASS,DCTL/LDBT,AROM/AR12,BROM/BR13"
```

TITLE		SIZE	CODE	NUMBER	REV
FP11-A FLOWS	SHEET 5 OF 8	B	FD	FP11-A-5	

REV. NUMBER FP11-A-3 CODE FD SIZE B

F14_SLO(F14) E14_E13	"FCTL/BPASS,ECTL/APASS,DCTL/SLALUO.LDBF,AROM/AR13,BROM/BR14"
F14_ZERO E14_E12	"FCTL/ZERO,ECTL/APASS,DCTL/LDBF,AROM/AR12,BROM/BR14"
F14_ZERO E14_E12 T_X12	"FCTL/ZERO,ECTL/APASS,DCTL/LDBT,AROM/AR12,BROM/BR14"
FCCR_FCCR.OR.02	"FCTL/D.OR.A,ECTL/D.OR.A,DCTL/LDBF,CONST/OCT2,AROM/FCCR,BROM/FCCR"
FCC_00	"CONST/ZERO,MISC/FCC_TBUS"
FCC_00 FCCR_00	"FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,CONST/ZERO,MISC/FCC_TBUS,BROM/FCCR"
FCC_04 FCCR_04	"FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,CONST/OCT4,MISC/FCC_TBUS,BROM/FCCR"
FCC_04(FZ)	"CONST/OCT4,MISC/FCC_TBUS"
FCC_05(FZFC)	"CONST/OCT5,MISC/FCC_TBUS"
FCC_06(FZFV)	"CONST/OCT6,MISC/FCC_TBUS"
FCC_10 FCCR_10	"FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,CONST/OCT10,MISC/FCC_TBUS,BROM/FCCR"
FCC_10(FN)	"CONST/OCT10,MISC/FCC_TBUS"
FCC_14 FCCR_14	"FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,CONST/OCT14,MISC/FCC_TBUS,BROM/FCCR"
FCC_14(FNFZ)	"CONST/OCT14,MISC/FCC_TBUS"
FCC_FCCR	"FCTL/BPASS,ECTL/BPASS,CONST/BYTE10,MISC/FCC_TBUS,BROM/FCCR"
FDFL.BUFH_FPS X10_X10	"FCTL/BPASS,ECTL/BPASS,DCTL/LDBT,CONST/BYTE10,MISC/FDFL.BUFH_TBUS,AROM/FPS,BROM/BR10"
FDFL.BUF_FPS	"FCTL/BPASS,ECTL/BPASS,CONST/BYTE10,MISC/FDFL.BUF_TBUS,BROM/FPS"
FDFL.BUF_FPS F_X13	"FCTL/BPASS,ECTL/APASS,CONST/BYTE10,MISC/FDFL.BUF_TBUS,AROM/AR13,BROM/FPS"
FDFL_BUF	"MISC/FDFL_BUF,CONST/NOP"
FDFL_FDFLBAR	"CONST/FDFLBAR,MISC/FDFL_TBUS"
FDST(3)_X10	"FCTL/APASS,ECTL/APASS,DCTL/LDBF,BSEL/FDST,AROM/AR10,SECT/S10"
FEC_02	"FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,CONST/OCT2,BROM/FEC"
FEC_04	"FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,CONST/OCT4,BROM/FEC"
FEC_06	"FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,CONST/OCT6,BROM/FEC"
FEC_10	"FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,CONST/OCT10,BROM/FEC"
FEC_12	"FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,CONST/OCT12,BROM/FEC"
FEC_14	"FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,CONST/OCT14,BROM/FEC"
FPS_BUF	"FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,MISC/TBUS_BUF,BROM/FPS,CONST/NOP"
FPS_BUF CC_BUF	"FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,MISC/TBUS_BUF,BROM/FPS,MISC CTRL/LOADCC,CONST/NOP"
FPS_FPS.AND.147757	"FCTL/D.AND.A,ECTL/D.AND.A,DCTL/LDBF,CONST/OCT147757,AROM/FPS,BROM/FPS"
FPS_FPS.OR.100000	"FCTL/D.OR.A,ECTL/D.OR.A,DCTL/LDBF,CONST/OCT100000,AROM/FPS,BROM/FPS"
FSRC(32)_X11	"FCTL/APASS,ECTL/APASS,DCTL/LDBF,BSEL/FSRC,AROM/AR11,SECT/S14"
FSRC_X11	"FCTL/APASS,ECTL/APASS,DCTL/LDBF,BSEL/FSRC,AROM/AR11"
F_AC	"FCTL/BPASS,ECTL/BPASS,BSEL/AC"
F_AC.XOR.200	"FCTL/D.XOR.A,ECTL/D.XOR.A,ASEL/AC,CONST/OCT100000"
F_Q	"FCTL/QPASS,ECTL/QPASS"
F_X10	"FCTL/BPASS,ECTL/BPASS,BROM/BR10"
F_X10BAR	"FCTL/BBAR,ECTL/BBAR,BROM/BR10"
F_X12	"FCTL/BPASS,ECTL/BPASS,BROM/BR12"
F_X13	"FCTL/BPASS,ECTL/BPASS,BROM/BR13"
MAINT	ENAB MAINT/MAINT"
PC_PC+2	"DST SEL/ROM,RSPA/PC,ALU BLEG/A+2,TOUT/NOP"
PC_PC-2	"DST SEL/ROM,RSPA/PC,ALU BLEG/A-2,TOUT/NOP"
Q_(F12*EAC)	"FCTL/APASS,ECTL/BPASS,DCTL/LDQF,BSEL/AC,AROM/AR12"
Q_FDST	"FCTL/BPASS,ECTL/BPASS,DCTL/LDQF,BSEL/FDST"
Q_FSRC	"FCTL/BPASS,ECTL/BPASS,DCTL/LDQF,BSEL/FSRC"
Q_X12	"FCTL/BPASS,ECTL/BPASS,DCTL/LDQF,BROM/BR12"
Q_ZERO	"FCTL/ZERO,ECTL/ZERO,DCTL/LDQF"
R11_BX	"DST SEL/ROM,RSPA/R11,ALU BLEG/BX,TOUT/NOP"
R11_R11-2	"DST SEL/ROM,RSPA/R11,ALU BLEG/A-2,TOUT/NOP"
R12_R12+2	"DST SEL/ROM,RSPA/R12,ALU BLEG/A+2,TOUT/NOP"
R12_RD	"DST SEL/ROM,RSPA/R12,SRC SEL/RD,TOUT/NOP"
R12_RD+B	"DST SEL/ROM,RSPA/R12,SRC SEL/RD,ALU BLEG/A+B,TOUT/NOP"
R12_RD-2	"DST SEL/ROM,RSPA/R12,SRC SEL/RD,ALU BLEG/A-2,TOUT/NOP"
R12_RD-B	"DST SEL/ROM,RSPA/R12,SRC SEL/RD,ALU BLEG/A-B,TOUT/NOP"

TITLE		SIZE	CODE	NUMBER	REV
FP11-A FLOWS	SHEET 6 OF 8	B	FD	FP11-A-5	

```
R12_UDATA                     "DST SEL/ROM,RSPA/R12,AMUX/UBUS,TOUT/NOP"
R14_(237.217)                 "CONST/(143.159),DST SEL/ROM,RSPA/R14"
R14_(70.30)                   "CONST/(56.24),DST SEL/ROM,RSPA/R14"
R14_(72.32)                   "CONST/(58.26),DST SEL/ROM,RSPA/R14"
R14_4                         "CONST/OCT4,DST SEL/ROM,RSPA/R14"
R14_B                         "DST SEL/ROM,RSPA/R14,ALU BLEG/B,TOUT/NOP"
R14_BX                        "DST SEL/ROM,RSPA/R14,ALU BLEG/BX,TOUT/NOP"
R14_R14 SWAB                  "DST SEL/ROM,RSPA/R14,SSMUX/SWAB,TOUT/NOP"
R14_R14+1                     "DST SEL/ROM,RSPA/R14,ALU BLEG/A+1,TOUT/NOP"
R14_R14+1 SWAB                "DST SEL/ROM,RSPA/R14,ALU BLEG/A+1,SSMUX/SWAB,TOUT/NOP"
R14_R14-1                     "DST SEL/ROM,RSPA/R14,ALU BLEG/A-1,TOUT/NOP"
R14_X11 SWAB                  "FCTL/BPASS.ECTL/BPASS,CONST/BYTE07,BROM/BR11,DST SEL/ROM,RSPA/R14,SSMUX/SWAB,CYCLE/LONG"
R14_X13 SWAB                  "FCTL/BPASS,ECTL/BPASS,CONST/BYTE07,BROM/BR13,DST SEL/ROM,RSPA/R14,SSMUX/SWAB,CYCLE/LONG"
R14_X14 SWAB                  "FCTL/BPASS,ECTL/BPASS,CONST/BYTE07,BROM/BR14,DST SEL/ROM,RSPA/R14,SSMUX/SWAB,CYCLE/LONG"
R17_(71.31)                   "DST SEL/ROM,RSPA/R17,CONST/(57.25)"
R17_2                         "CONST/OCT2,DST SEL/ROM,RSPA/R17"
R17_B                         "DST SEL/ROM,RSPA/R17,ALU BLEG/B,TOUT/NOP"
R17_BBAR                      "DST SEL/ROM,RSPA/R17,ALU BLEG/BBAR,TOUT/NOP"
R17_FEC                       "FCTL/BPASS,ECTL/BPASS,CONST/BYTE10,BROM/FEC,DST SEL/ROM,RSPA/R17,CYCLE/LONG"
R17_FPS                       "FCTL/BPASS,ECTL/BPASS,CONST/BYTE10,BROM/FPS,DST SEL/ROM,RSPA/R17,CYCLE/LONG"
R17_R17-B                     "DST SEL/ROM,RSPA/R17,ALU BLEG/A-B,TOUT/NOP"
R17_X13 SWAB                  "FCTL/BPASS,ECTL/BPASS,CONST/BYTE07,BROM/BR13,DST SEL/ROM,RSPA/R17,SSMUX/SWAB,CYCLE/LONG"
R17_ZERO                      "DST SEL/ROM,RSPA/R17,ALU BLEG/ZERO,TOUT/NOP"
RD_R17                        "DST SEL/RD,SRC SEL/ROM,RSPA/R17,TOUT/NOP"
RD_RD+2                       "DST SEL/RD,SRC SEL/RD,ALU BLEG/A+2,TOUT/NOP"
RD_RD+B                       "DST SEL/RD,SRC SEL/RD,ALU BLEG/A+B,TOUT/NOP"
RD_RD-2                       "DST SEL/RD,SRC SEL/RD,ALU BLEG/A-2,TOUT/NOP"
RD_RD-B                       "DST SEL/RD,SRC SEL/RD,ALU BLEG/A-B,TOUT/NOP"
RETURN                        "RET/RETURN"
SERV(BR.OR.PFAIL)             "MISC/SERV.BR"
SET FD(FPS)                   "FCTL/D.OR.A,ECTL/D.OR.A,DCTL/LDBF,CONST/OCT200,AROM/FPS,BROM/FPS"
SET FDFL                      "CONST/ONES,MISC/FDFL_TBUS"
SET FL(FPS)                   "FCTL/D.OR.A,ECTL/D.OR.A,DCTL/LDBF,CONST/OCT100,AROM/FPS,BROM/FPS"
SET FLAG                      "MISC CTRL/COUNT"
SET SIGN                      "FCTL/ZERO,ECTL/DPASS,DCTL/SL.ALU0,CONST/OCT100000,BROM/BR10"
TBUS_BUF                      "MISC/TBUS_BUF,CONST/NOP"
T_B                           "ALU BLEG/B,TOUT/NOP"
T_R14                         "RSPA/R14,TOUT/NOP"
T_R14-B                       "RSPA/R14,ALU BLEG/A-B,TOUT/NOP"
T_R17+B                       "RSPA/R17,ALU BLEG/A+B,TOUT/NOP"
UDATA_BX                      "ALU BLEG/BX,TOUT/NOP"
UDATA_R17                     "SRC SEL/ROM,RSPA/R17,TOUT/NOP"
UDATA_X10(3)                  "FCTL/BPASS,ECTL/BPASS,CONST/BYTE76,BROM/BR10"
UDATA_X11(0)                  "FCTL/BPASS,ECTL/BPASS,CONST/BYTE10,BROM/BR11"
UDATA_X11(1)                  "FCTL/BPASS,ECTL/BPASS,CONST/BYTE32,BROM/BR11"
UDATA_X11(2)                  "FCTL/BPASS,ECTL/BPASS,CONST/BYTE54,BROM/BR11"
UDATA_X11(3)                  "FCTL/BPASS,ECTL/BPASS,CONST/BYTE76,BROM/BR11"
X10(0)_BUF                    "FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,MISC/TBUS_BUF,BROM/BR10,SECT/S1,CONST/NOP"
X10(1)_BUF                    "FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,MISC/TBUS_BUF,BROM/BR10,SECT/S2,CONST/NOP"
X10(10)_ZERO                  "FCTL/ZERO,ECTL/ZERO,DCTL/LDBF,BROM/BR10,SECT/S3"
X10(2)_BUF                    "FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,MISC/TBUS_BUF,BROM/BR10,SECT/S4,CONST/NOP"
X10(210)_ZERO                 "FCTL/ZERO,ECTL/ZERO,DCTL/LDBF,BROM/BR10,SECT/S7"
X10(3)_BUF                    "FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,MISC/TBUS_BUF,BROM/BR10,SECT/S10,CONST/NOP"
X10_Q                         "FCTL/QPASS,ECTL/QPASS,DGTL/LDBF,BROM/BR10"
X10_ROTL(ZERO*(EAC.XOR.E10)        "FCTL/ZERO,ECTL/A.XOR.B,DCTL/ROTL,ASEL/AC,BROM/BR10"
```

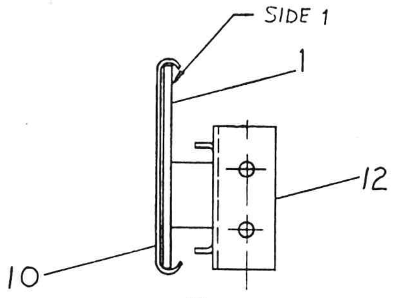
TITLE		SIZE	CODE	NUMBER	REV
FP11-A FLOWS	SHEET 7 OF 8	B	FD	FP11-A-5	

```
X10_ROTR(X12)                "FCTL/APASS,ECTL/APASS,DCTL/ROTR,AROM/AR12,BROM/BR10"
X10_X11                      "FCTL/APASS,ECTL/APASS,DCTL/LDBF,AROM/AR11,BROM/BR10"
X11(10)_ZERO                 "FCTL/ZERO,ECTL/ZERO,DCTL/LDBF,BROM/BR11,SECT/S3"
X11_(70.30)-X14              "FCTL/D-A-1,ECTL/D-A-1,DCTL/LDBF,ECIN/ONE,CONST/(56.24)*,AROM/AR14,BROM/BR11,CYCLE/LONG"
X11_AC                       "FCTL/APASS,ECTL/APASS,DCTL/LDBF,ASEL/AC,BROM/BR11"
X11_ROTL(X11)                "FCTL/BPASS,ECTL/BPASS,DCTL/ROTL,BROM/BR11"
X11_ROTR(X12)                "FCTL/APASS,ECTL/APASS,DCTL/ROTR,AROM/AR12,BROM/BR11"
X11_SLO(X11-X12) Q_SLC63(Q)       "FCTL/B-A-1,ECTL/B-A-1,DCTL/SLALUOQ,ECIN/ONE,AROM/AR12,BROM/BR11"
X11_SLO(X12+X11) Q_SLC63(Q)       "FCTL/A+B,ECTL/A+B,DCTL/SLALUOQ,AROM/AR12,BROM/BR11"
X11_SRO(X11)                 "FCTL/BPASS,ECTL/BPASS,DCTL/SROALU,BROM/BR11"
X11_SR1(X11)                 "FCTL/BPASS,ECTL/BPASS,DCTL/SR1ALU,BROM/BR11"
X11_X12                      "FCTL/APASS,ECTL/APASS,DCTL/LDBF,AROM/AR12,BROM/BR11"
X11_ZERO                     "FCTL/ZERO,ECTL/ZERO,DCTL/LDBF,BROM/BR11"
X12(1)_BUF                   "FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,MISC/TBUS_BUF,BROM/BR12,SECT/S2,CONST/NOP"
X12(2)_BUF                   "FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,MISC/TBUS_BUF,BROM/BR12,SECT/S4,CONST/NOP"
X12_-X12                     "FCTL/-B-1,ECTL/-B-1,ECIN/ONE,DCTL/LDBF,BROM/BR12,CYCLE/LONG"
X12_ROTL(X10)                "FCTL/APASS,ECTL/APASS,DCTL/ROTL,AROM/AR10,BROM/BR12"
X12_ROTL(X11)                "FCTL/APASS,ECTL/APASS,DCTL/ROTL,AROM/AR11,BROM/BR12"
X12_ROTR(F10.OR.F12)*E12)         "FCTL/A.OR.B,ECTL/BPASS,DCTL/ROTR,AROM/AR10,BROM/BR12"
X12_SLO(Q)                   "FCTL/QPASS,ECTL/QPASS,DCTL/SLALUO,BROM/BR12"
X12_SLO(X12)                 "FCTL/BPASS,ECTL/BPASS,DCTL/SLALUO,BROM/BR12"
X12_SLOO(X12)                "FCTL/A+B,ECTL/A+B,DCTL/SLALUO,AROM/AR12,BROM/BR12,CYCLE/LONG"
X12_SRO(X11+X12) Q_SRO(Q)         "FCTL/A+B,ECTL/A+B,DCTL/SROALUQ,AROM/AR11,BROM/BR12"
X12_SRO(X11BAR.AND.X12) "FCTL/ABAR.AND.P,ECTL/ABAR.AND.B,DCTL/SROALU,AROM/AR11,BROM/BR12"
X12_SRO(X12)                 "FCTL/BPASS,ECTL/BPASS,DCTL/SROALU,BROM/BR12"
X12_SRO(X12) Q_SRO(Q)        "FCTL/BPASS,ECTL/BPASS,DCTL/SROALUQ,BROM/BR12"
X12_X10                      "FCTL/APASS,ECTL/APASS,DCTL/LDBF,AROM/AR10,BROM/BR12"
X12_X11-X12                  "FCTL/A-B-1,ECTL/A-B-1,DCTL/LDBF,ECIN/ONE,AROM/AR11,BROM/BR12,CYCLE/LONG"
X12_X12+X11                  "FCTL/A+B,ECTL/A+B,DCTL/LDBF.AROM/AR11,BROM/BR12,CYCLE/LONG"
X12_X12+X14                  "FCTL/A+B,ECTL/A+B,DCTL/LDBF,AROM/AR14,BROM/BR12,CYCLE/LONG"
X12_X12-X11                  "FCTL/B-A-1,ECTL/B-A-1,DCTL/LDBF,ECIN/ONE,AROM/AR11,BROM/BR12,CYCLE/LONG"
X12_ZERO                     "FCTL/ZERO,ECTL/ZERO,DCTL/LDBF,BROM/BR12"
X13_(37.17)-X13              "FCTL/D-A-1,ECTL/D-A-1,DCTL/LDBF,ECIN/ONE,CONST/(31.15),AROM/AR13,BROM/BR13,CYCLE/LONG"
X13_R14                      "FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,MISC/TBUS_1134,BROM/BR13,RSPA/R14,CYCLE/LONG,TOUT/NOP,CONST/NOP"
X13_X13+1                    "FCTL/BPLUS,ECTL/BPLUS,DCTL/LDBF,ECIN/ONE,BROM/BR13"
X13_X13+200                  "FCTL/D+A,ECTL/D+A,DCTL/LDBF,CONST/OCT100000,AROM/AR13,BROM/BR13,CYCLE/LONG"
X13_X13+X14                  "FCTL/A+B,ECTL/A+B,DCTL/LDBF,AROM/AR14,BROM/BR13"
X13_X13-1                    "FCTL/B-1,ECTL/B-1,DCTL/LDBF,BROM/BR13"
X13_X13-200                  "FCTL/A-D-1,ECTL/A-D-1,DCTL/LDBF,ECIN/ONE,CONST/OCT100000,AROM/AR13,BROM/BR13,CYCLE/LONG"
X13_X13-X14                  "FCTL/B-A-1,ECTL/B-A-1,ECIN/ONE,DCTL/LDBF,AROM/AR14,BROM/BR13"
X13_X14                      "FCTL/APASS,ECTL/APASS,DCTL/LDBF,AROM/AR14,BROM/BR13"
X14(1)_40000                 "FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,CONST/OCT40000,BROM/BR14,SECT/S2"
X14(3)_40000                 "FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,CONST/OCT40000,BROM/BR14,SECT/S10"
X14_R14                      "FCTL/DPASS,ECTL/DPASS,DCTL/LDBF,MISC/TBUS_1134,BROM/BR14,RSPA/R14,CYCLE/LONG,TOUT/NOP,CONST/NOP"
X14_ROTR(F10.OR.F14)*E14)         "FCTL/A.OR.B,ECTL/BPASS,DCTL/ROTR,AROM/AR10,BROM/BR14"
X14_X11.AND.X14              "FCTL/A.AND.B,ECTL/A.AND.B,DCTL/LDBF,AROM/AR11,BROM/BR14"
X14_X12                      "FCTL/APASS,ECTL/APASS,DCTL/LDBF,AROM/AR12,BROM/BR14"
X14_X13.XOR.200              "FCTL/D.XOR.A,ECTL/D.XOR.A,DCTL/LDBF,CONST/OCT100000,AROM/AR13,BROM/BR14"
X14_ZERO                     "FCTL/ZERO,ECTL/ZERO,DCTL/LDBF,BROM/BR14"
```

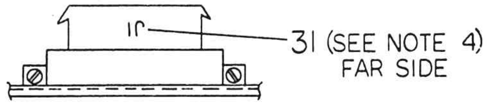
TITLE		SIZE	CODE	NUMBER	REV
FP11-A FLOWS	SHEET 8 OF 8	B	FD	FP11-A-5	

NOTES:

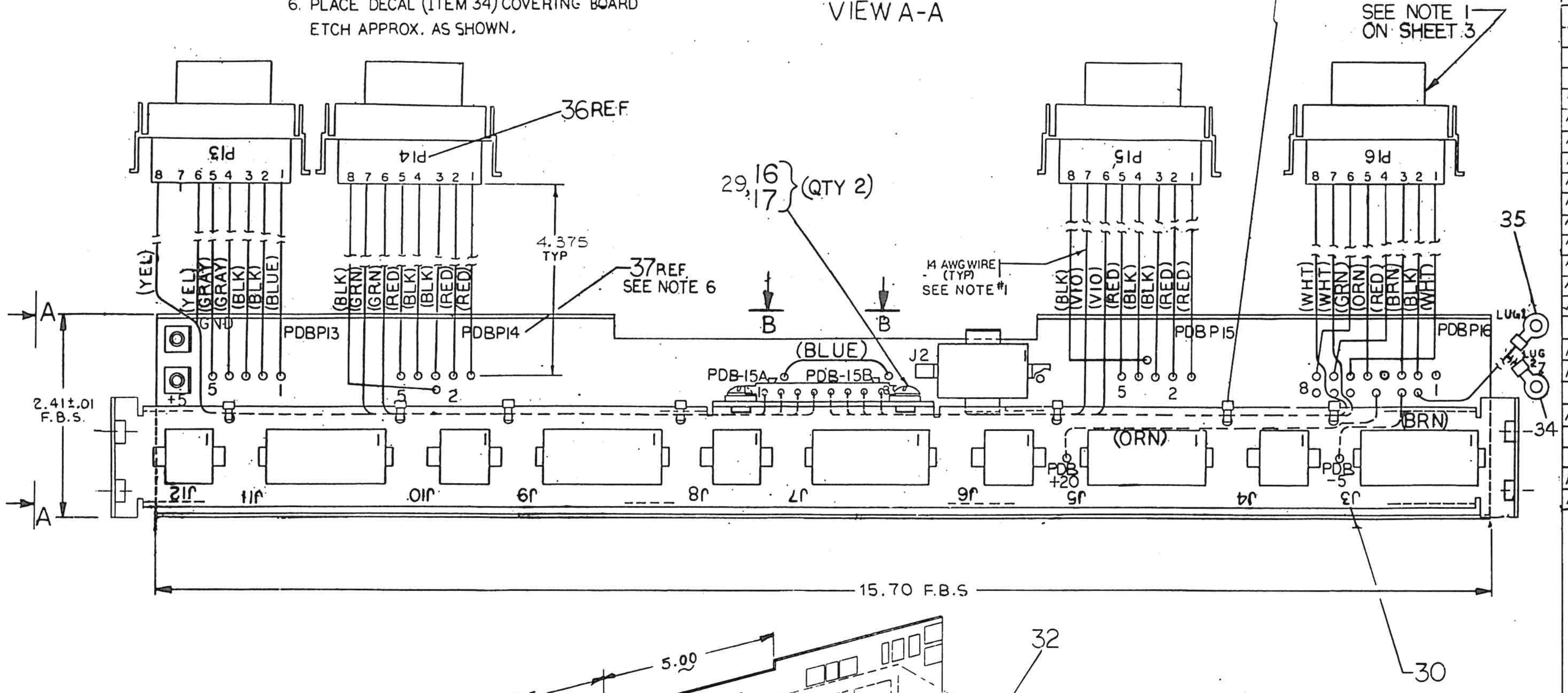
1. FOR HAND WIRING INFORMATION SEE WIRE TABLE ON SHEET 3.
2. MATE-N-LOK FIXTURES (ITEM 28) MUST BE USED DURING WAVE SOLDERING OF J2, J3-J12
3. WIRE JUMPERS ON CIRCUIT BOARD ARE PART OF SIGNAL PATHS. THEY ARE NOT FOR OPTIONS
4. PLACE DECALS (ITEM 30, 31 & 36) APPROX. AS SHOWN.
5. POWER DIST. BOARD WITH 7 #14 AWG WIRES AND BUS BAR IS THE YA VARIATION.
6. PLACE DECAL (ITEM 34) COVERING BOARD ETCH APPROX. AS SHOWN.

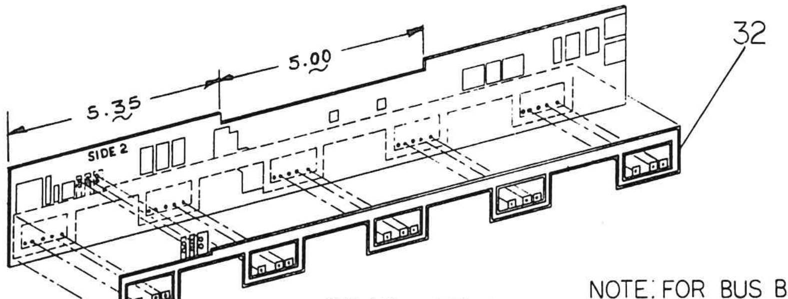


VIEW A-A



VIEW B-B
SCALE: NONE





REAR VIEW
SCALE: NONE

NOTE: FOR BUS BAR CONNECTIONS SEE SHEET 3 OF 3

5410864-YA QTY	5410864 QTY	REF. DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	1		ETCHED CIRCUIT BOARD	D-IA-5010863-0-0	1
5	5	J4, J6, J8, J10, J12	CONN, 6 PIN MATE-N-LOK (FEMALE)	1209350-06	2
1	1	J1	CONN, 8 PIN MATE-N-LOK (FEMALE)	1209340-00	3
5	5	J3, J5, J7, J9, J11	CONN, 15 PIN MATE-N-LOK (FEMALE)	1209350-15	4
1	1	J2	CONN, 12 PIN MATE-N-LOK (FEMALE)	1209350-12	5
4	4	P13 THRU P16	CONN, 8 PIN MATE-N-LOK (MALE)	1209340-01	6
31	24	(P13 THRU P16)	PIN, MATE-N-LOK	1209378-01	7
8	8	(J1)	PIN, MATE-N-LOK	1209379-01	8
117	117		PIN, MATE-N-LOK PC MOUNT	1209456-	9
1	1		SHIELD	C-MD-7412192-0-0	10
~~2~~	~~2~~		~~GROUND LUG~~	~~9008150~~	~~11~~
1	1		BRACKET, CONN MTG	D-MD-7411704-0-0	12
2	2		EYELET	9009000	13
2	2		FASTON TAB	9008219-0	14
7	7		CABLE TIE .12 WIDE	9007880	15
2	2		SCREW, PHHD TRUSS 6-32 x .3125	9006021-03	16
2	2		WASHER, INT TOOTH #6	9006633	17
A/R	A/R		WIRE # 14 AWG STRD (ORN)	9107370-33	18
A/R	A/R		WIRE # 14 AWG STRD (BRN)	9107370-11	19
A/R	A/R		WIRE # 14 AWG STRD (RED)	9107370-22	20
A/R	A/R		WIRE # 14 AWG STRD (GRY)	9107370-88	21
A/R	A/R		WIRE # 14 AWG STRD (BLK)	9107370-00	22
A/R	A/R		WIRE # 14 AWG STRD (BLU)	9107370-66	23
A/R	A/R		WIRE # 14 AWG STRD (YEL)	9107370-44	24
A/R	A/R		WIRE # 14 AWG STRD (GRN)	9107370-55	25
A/R	A/R		WIRE # 14 AWG STRD (VIO)	9107370-77	26
A/R	A/R		WIRE # 14 AWG STRD (WHT)	9107370-99	27
A/R	REF		MATE-N-LOK FIXTURES	C-IA-9305937-0-0	28
2	2		FLAT WASHER #6	9006656	29
A/R	A/R	J3 THRU J12	DECAL, PWR CONN.	A-DC-7409873-01	30
A/R	A/R	J1	DECAL, PWR CONN.	A-DC-7409873-02	31
1	–		BAR, BUS, BATTERY BACKUP	1213497	32
A/R	A/R		WIRE #14 AWG GRN/YEL	9107777-54	33
1	1		TERMINAL, RING BLU	9007928	34
1	1		TERMINAL, RING YEL	9007926-01	35
A/R	A/R	P13 THRU P16	DECAL, PWR CONN.	A-DC-7409872-2	36
A/R	A/R	P13 THRU P16	DECAL, PWR BOARD	A-DC-7417991-0-0	37

PARTS LIST

FIRST USED ON OPTION MODEL
BA11-K

ETCH BOARD REV. D

REV.	CHANGE NO.	ORIGINATED	CHK
L	5410864-00008	J. MERCURI D Zwicker 28 SEP 77	30 OCT 77
K	5410864-00007	R. WOLF R. Kennedy 24 JAN 77	3-JAN-77
J	5410864-00006	G. POTTER 2-AUG-76	9-1-76
H	5410864-00004	B. MINOR 3 Feb 76	30-JAN-76
F	5410864-00003	B MINOR W.C. 7 Oct 74	Oct 17 '75
E	5410864-00002	M. CARRAFIELLO M Carrafiello 10/2/74	9/26/74
D	5410864-1	M. CARRAFIELLO M. Carrafiello 8.15.74	8-15-74
C	CHANGE NO.	ORIGINATED	☒

REVISIONS

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

DRN. R. Beasley DATE 6/14/74
CHKD. DATE 7/1
ENG. M. Carrafiello DATE 7/25/74
PROJ. ENG. DATE 7/30/74
PROD. R.K. Peters DATE 7/30/74
NEXT HIGHER ASSY D-UA-BA11-K-0
SCALE NONE
SHEET 1 OF 3

digital

TITLE POWER DISTRIBUTION BOARD

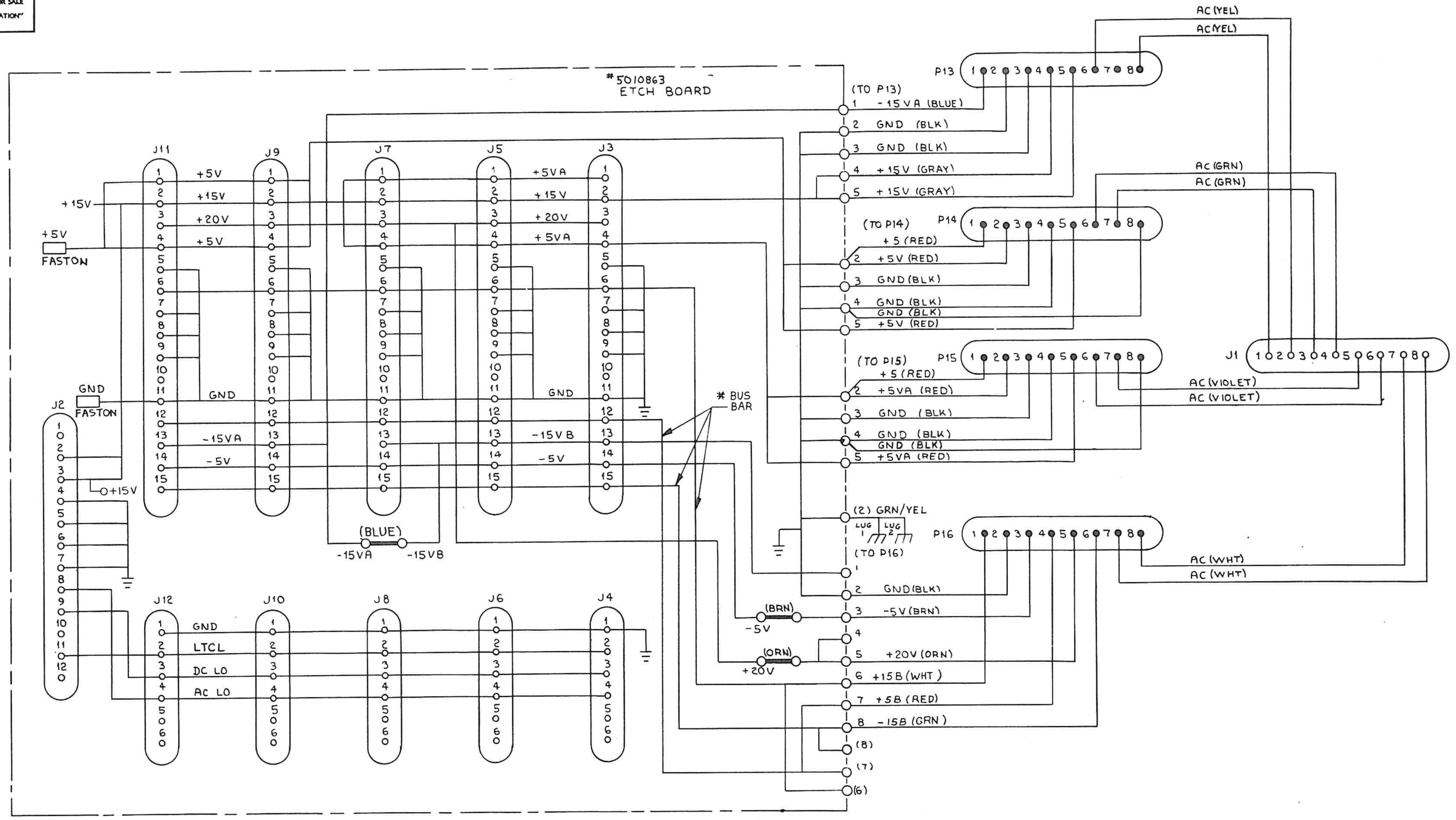
SIZE D CODE CS NUMBER 5410864-0-1 REV. L

DIST.

IC TYPE	GND	+5V	

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS



* BUS BAR USED IN THE YA VARIATION ONLY

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE PWR DIST BOARD
SCALE NONE
SHEET 2 OF 3

SIZE	CODE	NUMBER	REV.
D	CS	5410864-0-1	L

DIST.

WIRE TABLE

ITEM	DESCRIPTION		FROM		TO		LENGTH	SIGNAL NAME
NO	AWG	COLOR	CONNECTION	WITH	CONNECTION	WITH		
24	14	YEL	J1-1	8	P13-8	7	12.5"	AC/H745
24		YEL	J1-2		P13-6		12.5"	AC/H745
25		GRN	J1-3		P14-7		11"	AC/H744-1
25		GRN	J1-4		P14-6		11"	AC/H744-1
26		VIO	J1-5		P15-7		8.75"	AC/H744-2
26		VIO	J1-6		P15-6		8.75"	AC/H744-2
27		WHT	J1-7		P16-8		11.25"	AC/H754
27		WHT	J1-8	8	P16-7		11.25"	AC/H754
23		BLU	PDBP13-1	SOLDER	P13-1		5"	-15V
22		BLK	PDBP13-2		P13-2			GND
22		BLK	PDBP13-3		P13-3			GND
21		GRY	PDBP13-4		P13-4			+15V
21		GRY	PDBP13-5		P13-5			+15V
20		RED	PDBP14-2		P14-2			+5V
22		BLK	PDBP14-3		P14-3			GND
22		BLK	PDBP14-4		P14-4			GND
20		RED	PDBP14-5		P14-5			+5V
20		RED	PDBP15-2		P15-2			+5V
22		BLK	PDBP15-3		P15-3			GND
22		BLK	PDBP15-4		P15-4			GND
20		RED	PDBP15-5		P15-5			+5V
22		BLK	PDBP16-2		P16-2			GND
19		BRN	PDBP16-3		P16-3			-5V
18		ORN	PDBP16-5		P16-5	7	5"	+20V
23		BLU	PDP-15A		PDB-15B	SOLDER	1.75	-15V
18		ORN	PDBP16-5		PDB +20V		5"	+20V
19		BRN	PDBP16-3	SOLDER	PDB -5V		2"	-5V
33		GRN/YEL	LUG 1	35	PDBP16-2	SOLDER	11"	SAFETY GND
33					LUG 2	34	15"	SAFETY GND
20		RED	PDBP16-7	SOLDER	P16-4	7	5.5"	+5B
20		RED	PDBP15-1		P15-1		5"	+5V
20		RED	PDBP14-1		P14-1		5"	+5V
22		BLK	PDBP15-4		P15-8		5.5"	GND
22		BLK	PDBP14-4		P14-8			GND
27		WHT	PDBP16-6		P16-1			+15B
25	14	GRN	PDBP16-8	SOLDER	P16-6	7	5.5"	-15B

YA VARIATION ONLY. (items 20 through 25, last seven rows)

SEE NOTE 1 (last two rows)

BUS BAR CONNECTIONS FOR YA VARIATION

LEVEL A	PDBP16-6 J11,J9,J7,J5,J3 ALL PIN #6	+15V.B
LEVEL B	PDBP16-7 J11,J9,J7,J5,J3 ALL PIN #12	+5V
LEVEL C	PDBP16-8 J11,J9,J7,J5,J3 ALL PIN #15	-15V.B

NOTES:

1. CS REV. K AND EARLIER PWR DISTRIBUTION BOARDS HAD THE GREEN AND WHITE WIRES REVERSED IN COLOR ONLY. THE POINT-TO-POINT CONNECTIONS REMAIN THE SAME.

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV.
PWR DIST BOARD	D	CS	5410864-0-1	L
SCALE NONE · SHEET 3 OF 3	DIST.			

DEC FORM NO

DIGITAL EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

PACKAGING INSTRUCTION

TITLE FP11-AU FLOATING POINT UPGRADE KIT	REV:	A	DATE: 2/77
		B	10/77

MATERIAL REQUIREMENTS

Quantity	Purchase Specification No.	Description
3	9905241-00	Hex-Module Book Pack
2	9905880	Die-Cut Sheet
1	9905212	Die-Cut Sheet
1	9905375-01	Die-Cut Carton
1	9905374-01	Taped Tube
1	9905622	Module Box
1	9906009-00	Pad, Laminated
1	9906009-01	Pad, Laminated
1	9906010	Pad, Laminated
1	9906011	Pad, Laminated
1	9906012	Pad, Laminated
1	9906008	Tube, Taped
1	9906007	Carton, Regular Slotted
12 ft.	9905729	Tape, Carton Sealing

PACKAGING INSTRUCTIONS

Step Procedure

NOTE

See Figure 1 for Steps 1 thru 4

1. Fold and place one Die-Cut Sheet (9905880) into bottom of Die-Cut Carton (9905375-01)
2. Place Power Supply into Die-Cut Sheet (9905212) and then into the Die-Cut Sheet (9905880). Used in Step 1.
3. Place the remaining Die-Cut Sheet (9905880) on top of the Power Supply and then close the cover and seal with one strip of Carton Sealing Tape.
4. Place Die-Cut Carton into Taped Tube and seal with Carton Sealing Tape.

NOTE

See Figure 2 for Steps 5 thru 19

5. Seal bottom of Regular Slotted Carton 1 piece along length and each edge.
6. Place Prepackaged H7441 in Regular Slotted Carton (9906007).

ENG	APPD	SIZE	CODE	NUMBER	REV
RHoward 12/28/76	28 DEC 76	A	SP	3700270-0-0	B

PACKAGING INSTRUCTION

CONTINUATION SHEET

TITLE FP11-AU FLOATING POINT UPGRADE KIT

Step Procedure

7. Place Laminated Pad (9906012) in carton with recess in vertical position.
8. Insert Extender Board W9042 with Cables into Module Box (9905622).
9. Place Module Box into rectangular recess in Laminated Pad (9906012).
10. Place Laminated Pad on top of packaged H7441.
11. Place Laminated Pad (9906010) in carton with recess vertical.
12. Place Hex Module (3) (M8265, M8266, M8267) into Module Book Packs (9905241-00) with etch side up and seal with Carton Sealing Tape (9905729).
13. Insert the (3) Book Packs into recesses of Laminated Pads.
14. Insert Power Distr. Strip (5410864-YA) into Taped Tube (9906008).
15. Insert Pads (9906009-00 and 9906009-01) into ends of Taped Tube (9906008) with recesses facing out.
16. Insert Connector Blocks ((1) M5412416, (1) H8821) into recesses of pads with etch side out.
17. Place Taped Tube (9906008) on top of Module Book Packs between Laminated Pads.
18. Insert Manuals and Print Set on either side of Book Packs.
19. Seal Carton with Carton Sealing Tape (9905729).

		SIZE	CODE	NUMBER	REV
RHoward 12/28/76	28 DEC 76	A	SP	3700270-0-0	B

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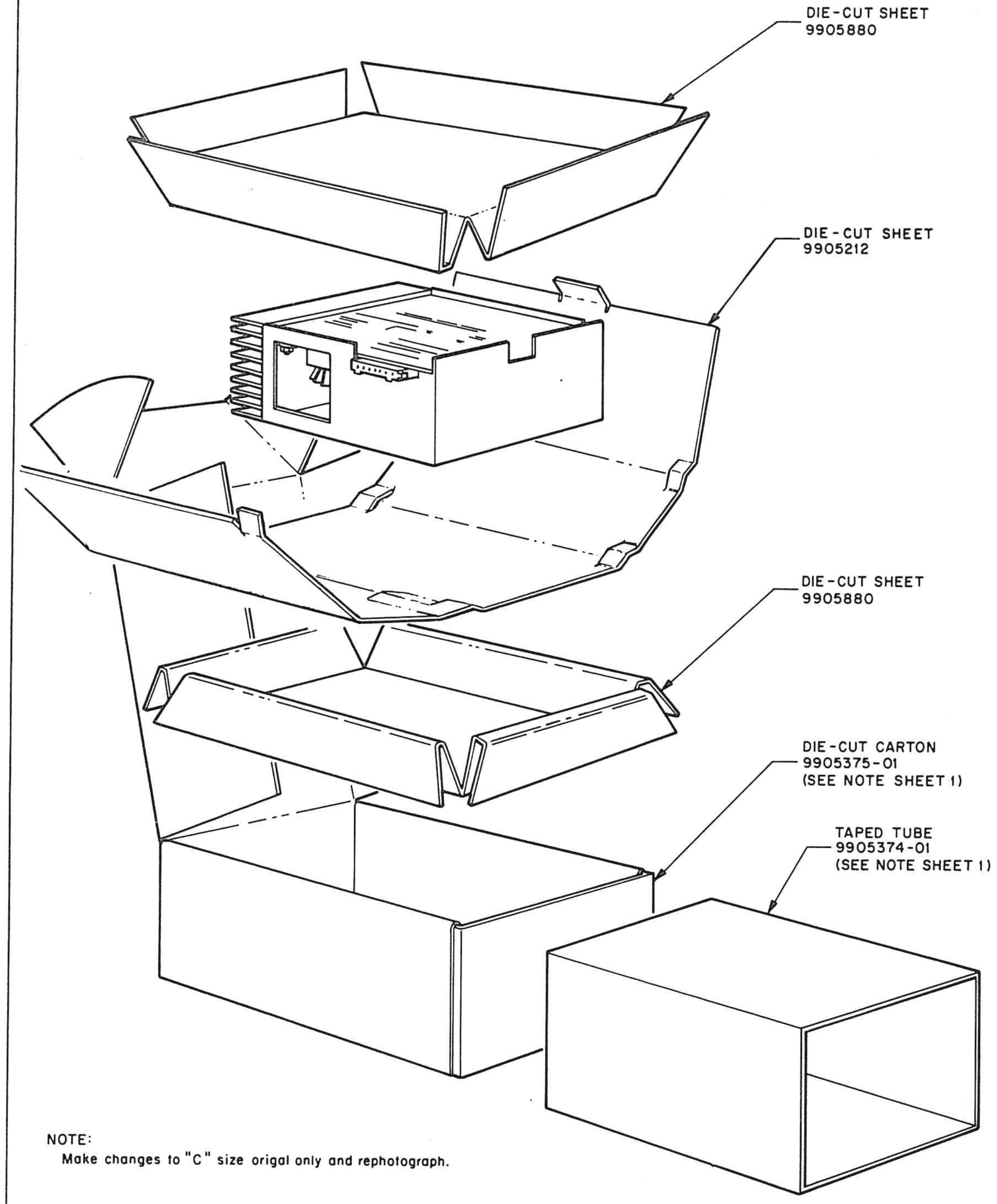
PACKAGING INSTRUCTION

REV:	DATE:
A	2 / 77
B	10/77

TITLE FP11-AU FLOATING POINT UPGRADE KIT



NOTE:
Make changes to "C" size origal only and rephotograph.

ENG.	APPD.	SIZE	CODE	NUMBER	REV
7/22/76	7/22/76	A	SP	3700270-0-0	B

DRC-108

SHEET 3 OF 4

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PACKAGING INSTRUCTION

REV:	DATE:
A	2/77
B	10/77

TITLE FP11-AU FLOATING POINT UPGRADE KIT

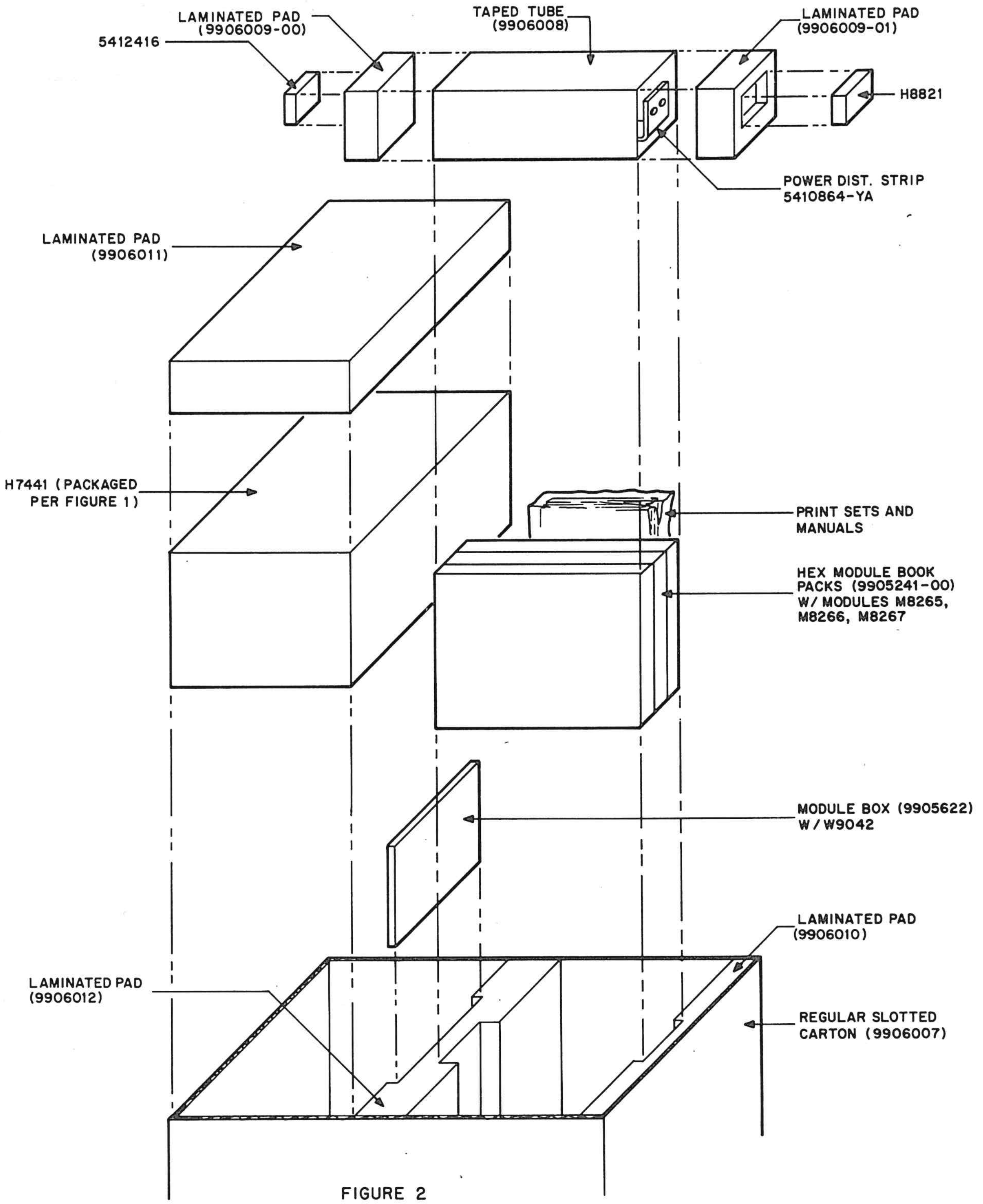

FIGURE 2

ENG.	APPD.	SIZE	CODE	NUMBER	REV
12/28/76	28 DEC 76	A	SP	3700270-0-0	B

DRC-107

SHEET 4 OF 4

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS
PARTS LIST

MADE BY D. HEALY DATE 10 NOV 76	CHECKED D. HEALY DATE 10 NOV. 76	SECTION 1
ENG DATE 12-20-76	PROD DATE 12-21-76	ISSUED SECT. 1

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION FP11-AU
1	MP00188	FP11-AU FIELD MAINTENANCE PRINT SET	1
2	EK-KD-EA-TM-PRE	KD11-EA PROCESSOR MANUAL	1
3	EK-FP11-A-TM-PRE	FP11-A FLOATING POINT MANUAL	1
4	ZJ233-RB	SOFTWARE LIBRARY KIT (PAPER TAPE)	1

TITLE FP11-AU SHIPPING LIST	ASSY NO. NONE SHEET 1 OF 1	SIZE A	CODE PL	NUMBER FP11-AU-3	REV. A	ECO NO. FP11AU-00001
		DIST.				

DEC FORM DEC 16-(325)-1031-N870
DRA 110